

# **AMERICAN GAS ASSOCIATION MONTHLY**

**APRIL • 1937**

**Public Acceptance of Gas Service**

**W. G. WIEGEL**

•

**Research on Domestic Gas Ranges**

**F. O. SUFFRON**

•

**Home Service and Sales Managers**

**B. T. FRANCK**

•

**Prospects in Refrigerator Sales**

**H. M. HENRY**



# A. G. A. RATE SERVICE

This Service, published in loose-leaf form, contains over 500 pages of complete and accurate information relative to gas rate schedules throughout the country. The volume is kept up-to-date at all times by supplementary sheets issued at frequent intervals, incorporating changes in gas rates as they occur.

## *THE RATE SERVICE CONTAINS:*

1. Complete gas rate schedules in effect for practically every community in the United States and its Possessions, Canada and Newfoundland, together with data on kind and heating value of gas supplied.
2. Complete list of gas companies with names of communities supplied by each company.
3. List of gas companies having special rates for water heating.
4. List of gas companies having special rates for house heating.
5. A tabulation showing all communities in which therm rates are now in effect and the names of companies serving these communities.

•

## *Subscription price, including Supplements:*

\$10.00 per year to Members

\$25.00 per year to Non-Members

•

AMERICAN GAS ASSOCIATION • 420 Lexington Avenue  
NEW YORK, N. Y.

# AMERICAN GAS ASSOCIATION MONTHLY

*Contents for April 1937*

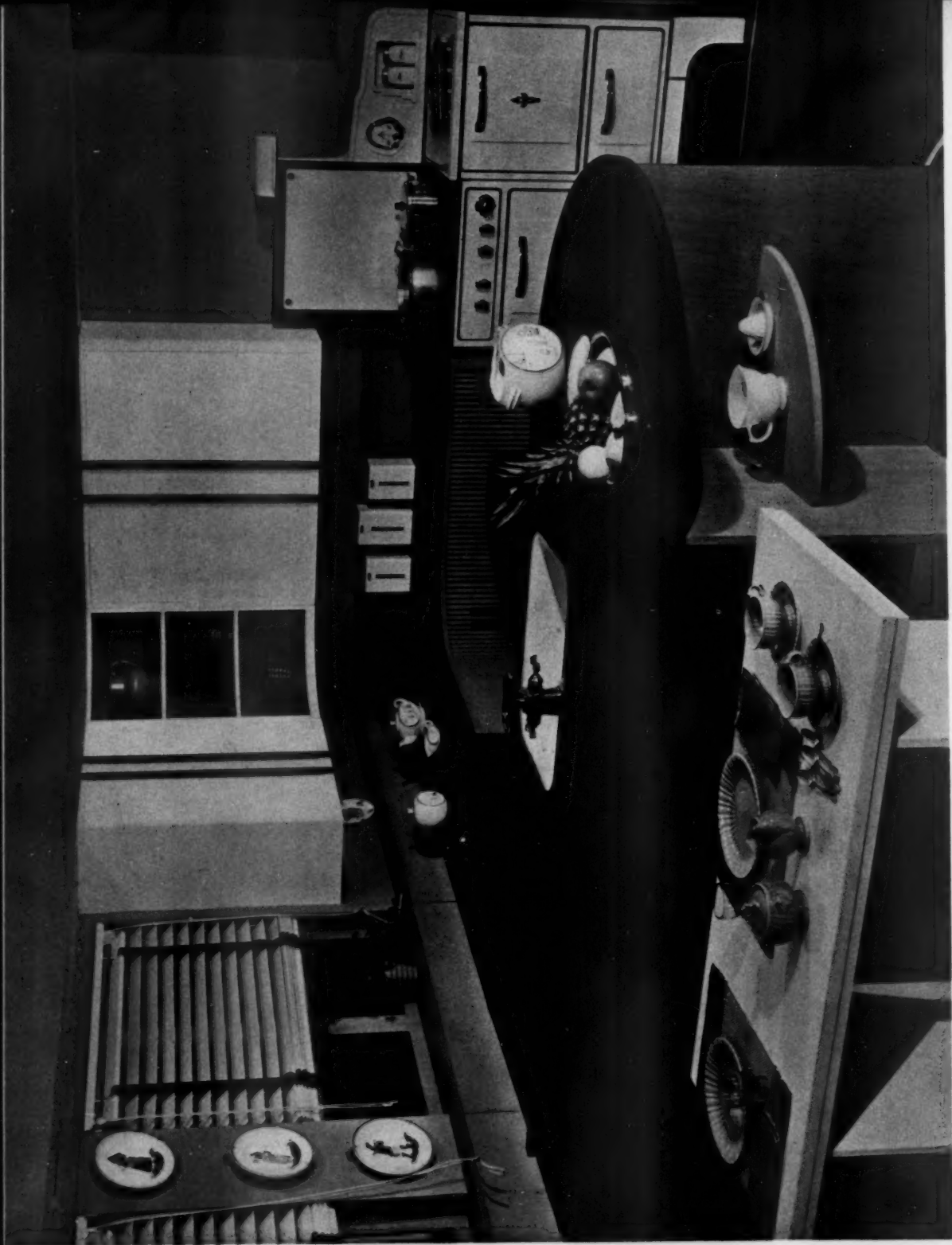
VOL. 19 No. 4

Public Acceptance of Gas—The First Year.... 123 WILLARD G. WIEGEL	Affiliated Association Activities..... 144
"Soldiers Who Kept on the Gas"..... 127	Convention Calendar..... 145
The Mystery Chef Takes the Mystery Out of Good Cooking..... 128	Prospects in Gas Refrigerator Sales..... 146 HALL M. HENRY
Recent Research on Domestic Gas Ranges.... 130 F. O. SUFFRON	Accelerated Load Building Prospects Dis- cussed at National Commercial Sales Conference ..... 149
Home Service and the Sales Manager..... 133 BERNARD T. FRANCK	Going Ahead with Industrial Gas..... 151
Your Association—What It Is and What It Offers ..... 136	Conewago Gas Company Changes To Nat- ural Gas..... 153 H. SMYSER BAIR
Chicago Adopts New Industrial Power Rate 138 WINFIELD FOSTER	The Reynolds Number Factor and the Ger- man Flow Meter Standard..... 155 LYMAN M. VAN DER PYL
Natural Gas Convention in May Expected To Set All-Time Attendance Record..... 141 CHARLES D. GREASON	Personnel Service..... 160

Published eleven times a year by the American Gas Association, Inc. Publication Office, American Building, Brattleboro, Vt. Publication is monthly except July and August which will be a bi-monthly issue. Editorial Offices, 420 Lexington Avenue, New York, N. Y. Address all communications to American Building, Brattleboro, Vermont, or to 420 Lexington Ave., New York, N. Y. All manuscript copy for publication should be sent to the editorial offices in New York. The Association does not hold itself responsible for statements and opinions contained in papers and discussions appearing herein. Entered as Second Class Matter at the Post Office at Brattleboro, Vermont, February 10th, 1922, under the Act of March 3, 1879.

SUBSCRIPTION RATE : \$3.00 A YEAR





*A view of this modern kitchen from a different angle will be the central illustration in a full-page four-color advertisement which will appear in the May 1 issue of the Saturday Evening Post as a part of the national advertising campaign.*



# AMERICAN GAS ASSOCIATION MONTHLY

*James M. Beall, Editor*

## Public Acceptance of Gas— The First Year

**Y**OUR cooking and water heating load represents from 40 per cent to 80 per cent of your domestic business. That load is important. It is menaced by an aggressive electric competitor, spurred on by government encouragement.

Perhaps your territory has already been encroached upon. Perhaps you are already on the firing line so to speak, fighting to protect the kitchen load which is such a vital part of your business. If so, you are doubly aware of the necessity for aggressive protective measures.

You may not have encountered active competition for your cooking and water heating load except in a hazy, far off warning, sounded perhaps by convention speakers or by some article you have read in one of our gas magazines. If you are free from electric competition, you are more fortunate in one way than those who have already encountered trouble. You are still top man in your customers' kitchens. If you are not fighting for load which is vital to you, the odds are still in your favor. But on the other hand, you are much less fortunate, because you do not heed the danger which confronts you. You are as inactive as the seeds of the trouble which lie deep within the fertile soil of your territory. When those seeds germinate, as they have in many sections, you will have a full grown crop of trouble on your hands. With Federal rural electrification programs encouraging a network of cheap power sources on the outskirts of your distribution plants, in itself creating a favorable public acceptance for electric kitchens, it may not take long for those seeds to spring up to the surface.

I called your territory fertile soil for competitive trouble. And it is just that. While it is true that 15,000,000 homes now cook with gas, it is also food for thought to note that new range sales have averaged less than 1,000,000 annually throughout the nation during recent years. Since thousands

**By WILLARD G. WIEGEL**

Lone Star Gas System, Dallas, Texas

of newly married couples are included among these million purchasers, we are forced to the conclusion that relatively few old customers are actually

in a position to judge modern gas cooking on its true merits. In the Southern and Southwestern gas territory, there are, at a conservative estimate, approximately 1,250,000 obsolete gas ranges in use. More than a million homes in our territory are gearing the tempo of daily activity around kitchens that are hopelessly outdated.

Let's examine the facts. There are two main factors contributing to the existence of this situation. It is only within recent years that science took a hand in planning and designing more convenient and more efficient home equipment of all kinds to meet housewives' demands for more convenience and more leisure time. And only since this revolutionary trend in home equipment have there been any particular changes in gas ranges which would, of themselves, create in the mind of the gas user a desire strong enough to force the discard of the old gas range in favor of the new improved models. But by the time the improved gas ranges appeared on the market, the period of retrenchment brought on by economic conditions had reached into homes. Remodeling, repairs and home equipment replacements of all kinds have been kept to a minimum for almost the entire period since the first improved gas ranges came on the market.

During this period of restricted buying, new trends went almost unnoticed by thousands of people who were holding their purchases to a minimum. Aimless shopping and "just looking around" decreased—it was too dangerous a pastime to be indulged in with flattened pocketbooks. During this period if you wanted to have the new features of any product noticed, you had to make a big noise to attract attention. Consequently, the improvements in gas ranges over the nation as a whole went unnoticed. Gas cooking to the bulk of our customers brings up a picture of a gas range, all right, but



W. G. Wiegel

the vintage is apt to be 1925, 1915 or even, in extreme cases of older families, of 1900.

And that brings us to the stiffest selling hurdle the gas industry has to clear in its effort to create a greater public acceptance and appreciation for modern gas cooking—the prospect's puzzled objection to what has seemed to her a needless expenditure:

"But my old gas range still cooks!" she says.

And it does, of course. The very fact that we have started a national campaign proves we are paying now, not only for a certain amount of sales promotion lethargy, but for the excellence of our past accomplishments. There were few things to break or go wrong with the gas ranges we have been putting on the market for years. They were the best in their field when they were manufactured. And they proved it by outliving their day. These obsolete ranges are still cooking in thousands of homes today, even though their technique is that of a past generation of culinary artists.

#### *Obsolete Equipment*

So the typical customer sees no particular reason for getting a new gas range. She may realize vaguely that her old range is hampering her by a lack of modern improvements. But in far too many cases she is unconsciously attributing that handicap to the fact that she has a gas range, while the aggressive advertising of our electric competitor, both national and local, pleads for her favor by leading her to believe that electric ranges do everything but sweep the kitchen after the meal is cooked. Obsolete equipment in the homes of your customers is a situation your competitor has been capitalizing on for the past several years. And that is the danger confronting us as an industry.

It was to meet that danger squarely where it existed and to destroy it before it had a chance to make progress in any new territory that the national advertising campaign of the American Gas Association was inaugurated.

The national advertising campaign, which started in national magazines last September, is making progress. It is dignified. It is colorful. It is informative. It will meet the requirements of the resolution passed at the

In the Southern and Southwestern gas territory, there are, at a conservative estimate, approximately 1,250,000 obsolete gas ranges in use. More than a million homes in our territory are gearing the tempo of daily activity around kitchens that are hopelessly outdated.

. . . . The aggressive advertising of our electric competitor, both national and local, pleads for the customer's favor by leading her to believe that electric ranges do everything but sweep the kitchen after the meal is cooked. Obsolete equipment in the homes of your customers is a situation your competitor has been capitalizing on for the past several years. And that is the danger confronting us as an industry.

It was to meet that danger squarely where it existed and to destroy it before it had a chance to make progress in any new territory that the national advertising campaign of the American Gas Association was inaugurated.

—W. G. Wiegell.

convention in Chicago in the fall of 1935: "To create public acceptance for gas as the modern, efficient fuel for all household purposes wherever heat is required." But it can be assisted to do the job for you more quickly and more efficiently than it is at present. Don't you as contributors to the national program expect, in the final analysis, tangible and definite local benefits, before you are willing to admit that the national program has been of direct benefit to your company? If so, then the limited budget of the committee will not accomplish complete results as soon as you hope for.

#### *Advertising Creates Acceptance*

It is true that the tendency of every industry having national distribution is toward national planning and the use of nationwide educational methods to create public acceptance. You have only to look about you. Automobiles, clothing, shoes, radios, foods, cosmetics, refrigerators—manufacturers of all kinds of necessities and luxuries—are educating America to prefer their product or service through the media of national advertising programs. These national advertising programs of every kind and description are designed to influence public opinion and stimulate or quicken the desire to own the product or service advertised. To create public acceptance is the fundamental purpose of all advertising. It is only completely successful if the advertiser convinces the public to the point of action.

There is no doubt that the automobile industry has educated the public to accept the automobile as the ideal form of transportation. I wonder how long they could keep the public sold

on the idea if 75 per cent of the automobiles on our streets were of a vintage as far back as 1920? The automobile continues to maintain its favorable position because it keeps America in modern models, year after year. Hardly have you had an opportunity to develop a squeak in the body of your new car before national advertising programs of the automobile industry appear to sell you the advantages of newer models.

During our grandfather's time there was a universal acceptance of straight razors, just as there is a favorable acceptance today for gas cooking. Although people are creatures of habit, Mr. Gillette came along and created a public acceptance for a new type of razor and changed the shaving habits of a nation. Today the electric razor is making a bid for your favor with reasonable success.

Also, if grandmother smoked cigarettes or used rouge and lipstick, folks wondered if she was a nice girl. Today you find lipstick on cigarettes in the ashtray and about all the thought you give to it is that grandmother didn't go out for the afternoon as she had planned.

Can you create universal public acceptance through advertising? Certainly! And the electric industry is doing a fairly good job considering the fact that the gas industry is already in the kitchen.

It is far easier and less expensive to create public acceptance and keep it than it is to get it back, after you have once had it and lost it. It hasn't been so many years since ice was universally used for domestic refrigeration, yet today the ice industry plans an expenditure of \$500,000 in a national adver-

tising campaign to re-create a public acceptance it once enjoyed.

Rudyard Kipling summed up a similar situation in these words:

*"We had a kettle; we let it leak;  
Our not repairing it made it worse.  
We haven't had any tea for a week—  
The bottom is out of the universe!"*

You will find a moral there that is worth serious consideration.

### Why Ranges First

As a member of the copy committee of the American Gas Association's national advertising program, I have been asked frequently "why was it decided to build the first year's program around the gas range?" Representing, as it does, the keyload of the industry, made vulnerable by obsolete ranges in millions of homes, the gas range was the logical place to start cementing the faith of present customers. By informing these customers of the advantages and improved ability of modern gas ranges, the national advertising program expects to convince them that it isn't a new method they need, but a new model which is scientifically designed to do the unexcelled cooking job of which gas service is capable.

It is putting the public—your customers—in a receptive frame of mind by telling them what modern gas range improvements will do for them. It is telling them many things they did not know about the modern features of gas equipment. It will serve to keep the public gas-minded. It will offset the siren song of your competitor. It will set the stage for you to cash in, in more ways than one.

Cooperating closely with the national committee are the women's magazines in which the advertising appears. Don't for a minute overlook the influence these magazines wield—not only in New York and Chicago—but in Atlanta, New Orleans, Dallas and Possum Trot—your territory and mine. The editors of these magazines are plugging modern gas cooking in their editorial features and women are reading them. Sparkling, fresh, attractive articles about the new gas ranges and gas cooking are now appearing in magazines of nationwide circulation. This is part of the assistance your national advertising program has encouraged.

However, we must realize that creating mass public acceptance quickly is a big and expensive job. When we speak of the public we must remember that it is made up of millions of people like ourselves. I ask you frankly if you are not more likely to be influenced to action by point of sale contact? It is true that widespread and favorable public interest is being created through the national campaign for you to capitalize on. But all its accomplishments

paign to the extent of using in their local advertising the material sent out by the national committee. Many have seen to it that publicity releases from campaign headquarters were furnished local newspapers.

But there's still another angle to the local tie-in which may be overlooked. And that is the local gas appliance dealer.

Your dealer's voice can be added to yours in putting over the national campaign. In fact, the national campaign can, I believe, furnish the solution to one phase of the dealer problem which has confronted the industry for years.

That there is a dealer problem none of us can deny, with agitation stirring in many sections of the country for legislation prohibiting utilities from merchandising appliances. Kansas had such a law—and repealed it. Oklahoma is still struggling with her law. And the Texas Legislature just recently killed a bill proposing this legislation.

I wonder if you have ever analyzed why some dealers look upon the utility as a competitor rather than a cooperating organization? There is an understandable reason why the dealer in gas appliances often regards you as a competitor if you look at it from his point of view.

### Dealer Angle

The fact that our service creates a market for the appliances the dealer sells means nothing to him—because he is accustomed to having markets created for him. The average dealer thinks of gas ranges, space heaters, water heaters, refrigerators, etc., in terms of goods to be sold, stock turnovers, sales tickets that mean money in the cash register when they are moved from his store. He stocks gas appliances for the same reason that the grocer stocks Campbell's soup, Ivory soap or any nationally advertised product that the public has been educated to want. He is like the druggist who sells toothpaste. The druggist never spent a dollar and never intends to in educating people about the care of teeth. He is interested solely in supplying the demand for something that the public has been educated to want. Therefore, if and when the public wants gas ranges, the average dealer feels that it is his job—and his privilege—to sell them.



Current newspaper advertisement of The Brooklyn Union Gas Company using standard elements from the national advertising campaign in local copy

and influence will give you very little personal benefit if you fail to take advantage of it locally.

But where to start cashing in locally? That is the question.

You have seen, doubtless you have studied and commented on the attractive advertisements which have appeared so far during the national campaign. You are, of course, familiar with the tie-up material that is available to you. But have you ever sat right down, so to speak, and studied ways and means to cash in among your own customers, with this material? You can use the ideas offered in the campaign to open up your local market and create an acceptance for gas that can be realized in dollars and cents as well as protection.

Since the campaign started, you've heard a good deal about this local tie-in. And a number of companies have tied in with the national cam-





Show window of the Public Service Electric and Gas Company, Newark, N. J., using the first sample photo mural tying in with the national advertising campaign. This mural is one of a series of three soon to be offered as another element designed to stimulate interest at the point of sale

Still, even though the dealer takes for granted the efforts of the national campaign to create a greater public acceptance for gas, I believe the campaign offers the first real opportunity for effective dealer cooperation of a kind that benefits both you and the dealer. You need your local dealer's help if you are to realize full advantage locally from the national campaign. And the dealer will cooperate if you show him how it is to his financial advantage to do so.

#### *Selling the Dealer*

In the first place, the dealer should understand that the national campaign in creating an acceptance for gas is also creating a desire for new equipment. Therefore, every dealer in modern gas appliances should have a full explanation of the national program, and its purpose, coupled with the information which you can supply concerning the amount of obsolete equipment on your lines.

But even that isn't enough. Something more is needed to overcome the average dealer's lethargy toward making a definite effort for gas appliance business, if the experience of our company is typical.

We went that far with our dealers in Dallas and Fort Worth last fall. We held a meeting for all our dealers and their salesmen, along with our own

sales force. With the aid of the agency's representative, we presented an attractive and forceful picture of the national advertising campaign. We explained the campaign and its purpose in detail, and stressed the great gas appliance market available.

What happened?

Nothing. The dealers sat back during the following months—expectantly, perhaps; they might even have been waiting hopefully for a market of three million dollars to walk into their stores and say: "We want to buy a modern gas range." But they gave no outward sign that they had been moved to cooperate with us.

Now the chances are that if we had shrugged our shoulders and let it go at that . . . If we had said: "Oh well, we tried!" . . . If we had taken that attitude and gone out for the gas range business aggressively on our own, we would have incurred the lasting ill-will of every gas appliance dealer in the city.

Obviously, something had to be done. Something definite had to be given them as proof that we had a constructive idea that would help both of us.

Our chance to prove the value of our joint market, to jolt them into activity, came along when one of the newspapers decided to put on a cooking school.

It was pointed out to the dealers selling modern gas ranges that 70 per cent of the gas ranges in use in Dallas were obsolete when compared to the advantages of the new models. The national advertising program was again called to their attention and they were urged to feature ranges sold by them so that the public would have first hand knowledge of the improvements of the new models which the national advertising campaign stressed. For the first time, many dealers became aware of the gigantic replacement market available to them. This replacement market was beginning to mean potential sales. In this particular instance the possibilities represented a market in excess of \$3,000,000. Every dealer felt the urge to obtain a share of this potential business. For the first time in many months most dealers featured modern gas ranges in their advertisements.

#### *Cooking School Tie-up*

The morning and evening newspapers sponsoring the cooking school sensed additional advertising lineage made possible by this coordinated effort to urge housewives to modernize their kitchen equipment, and published two 10-page sections filled with up-to-the-minute information about modern cooking problems and the advantages of modern gas ranges. The first 10-page supplement devoted to the gas ranges appeared on Sunday preceding the cooking school and range show, and contained 8313 agate lines of editorial matter and photographs and 8456 agate lines of advertising devoted exclusively to gas ranges. Thirteen attractive photographs of modern kitchens, gas ranges, and cooking operations were included in the editorial section.

All but one of these photographs were obtained from the A. G. A. national advertising committee. They are available to you. Of the total editorial content of this 10-page section, less than 400 agate lines or about one and one-half columns, were devoted to an unrelated subject. In addition to the advertisement of the gas company, twelve leading dealers featured eight different high grade, A. G. A. approved, modern gas ranges. Throughout the week following publication of the exclusive gas range section some dealers ran additional advertisements

(Continued on page 157)

# "Soldiers Who Kept on the Gas"

**S**UCH was the heading of one of the large newspaper advertisements run by the Cincinnati Gas and Electric Company, H. C. Blackwell, president, during the terrible floods which devastated vast portions of the country during January and February. The advertisement tells a vivid story of the conditions faced not alone by the Cincinnati company but by scores of other gas companies in flooded areas. In all cases, heroic efforts, mostly successful, were made to continue uninterrupted gas service. The advertisement speaks for itself:

When the flood was at its height, when your spirit sank lower and lower listening to the radio bulletins, it was comforting to hear the announcer say: *"The officials of your gas company report normal supplies of gas in almost every section of the community."*

Behind that simple statement that "all is well with the gas supply" is a story of fighting men which will stir the feelings of every grateful citizen.

When the river markers showed 45 feet, these men began to get ready for a flood—with boots and boats and emergency equipment. By 49 feet they were already patrolling the bottoms. Johnny-on-the-spot—everywhere meters had to be pulled, or drip pumps had to be manned.

*And then came the greatest deluge this valley has ever known!*

## Real Life Drama

At the gas works things began to happen—and happen fast. With the coming of the water, there was only one thought, one order—*forget the equipment, keep the gas flowing through the mains.* Soon the river was lapping at the mammoth valve that regulates the community's gas supply. The valve stem had to be lengthened to keep it above water. It was lengthened again—and again—until it stuck out of the roof. And, perched there was a game fellow with his eyes glued on the pressure dial and his hands clutching the valve wheel to regulate the gas to an even flow. It was biting cold and wet on that shaky perch, with the flood waters raging below. Relief had to come by motor boat every thirty minutes.

More trouble. A 20-inch supply line—vital to the community's gas supply—began to lift, tearing away the heavy steel buckles that held it down. Up and up it went—a break would be just too bad. What to do to "hold her down"? Husky men straddled that big pipe and "held her down" while the gas was shut off, so it could be rerouted through a reserve line. That took courage. For a break in that high pressure pipe would have blown those fighting fel-

lows sky-high. They didn't even think of that. They wanted to save the community's gas supply.

More trouble. The gas supply tanks were standing in deepening water. Sleet and snow was piling on the big one that holds three million cubic feet. It might tilt—and topple. Clean her off, men! And up the sides they clambered to shovel that top-heavy blanket of snow off the skittery top, 180 feet above the water. Water that was 33 degrees cold—and wicked. But what of it—it wouldn't do to have that tank break loose and bump its way down the river.

## Gas Supply Saved

Then there was the Mitchell Avenue experience—an epic in itself. A report was flashed to headquarters that out there water was spurting thirty feet in the air. That could only be caused by gas leaking from the 20-inch tie-in line. If it wasn't turned off it meant no gas west of Broadway!

Three crews were dispatched to Spring Grove and Mitchell, where the shut-off valve was located. One crew walked more than a mile through water to get there. But that valve box lid was buried under four feet of water, and it had to be found. Men with numb bodies and chattering teeth groped for it—and finally found it. But they couldn't pry it open with the tools they had. So a call went to Fourth and Plum for special equipment. It reached these waiting men in seven minutes flat. The box lid was opened—the valve was turned—and the gas supply was saved.

How the drip men helped save the city's gas supply is a dramatic story, too. When a flood comes, these men stand on platforms and pump the water out of mains in low-lying districts. But even 12-foot drip stands weren't high enough in water like this. So hand pumps were mounted on floats—and on went the pumping. It wasn't easy going with the foothold slippery and the drift doing its best to bump the moorings loose. Where the current was swiftest, ropes were looped around these men and tied to poles or trees in case their floats were sucked from under them. One drip man was stationed where it took a five-mile row to bring him relief. Another was marooned for 18 hours—but he kept on pumping.

A thousand other stories could be told of these soldiers who kept on the gas. Of men in the station working in oil-scummed water with 1,500 gas meters floating around, banging about their bodies. Men rowing boats out of plant windows—against orders—risking their lives to assure themselves that a pressure gauge was registering ample pressure. One swirl of that treacherous current might have drowned them like rats. Men lugging dispatching equipment through the rain so that the gas load was always under control. Men flirting with death in a sea of gasoline. Men

who would never let a river lick them. The stake was the community's gas supply. And that was worth taking any risk to save!

Your gas company is proud of these men. Certainly you are, too. They did a job. They did it well. And thank God not one of them was lost or seriously injured.

These "soldiers" are not through yet. They pulled thousands of meters out of dark, flooded cellars, and these must be replaced. Thousands of meters were completely ruined. Hundreds floated away. It takes time to have new meters made. It takes time to clear out the lines and repair the controls. Some will have to wait for gas service. Your gas company would like to get to every customer first. This, of course, is humanly impossible. But if you are inconvenienced for a while, your patience will be of great assistance in speeding the work along. *And it will be deeply appreciated!*

—The Cincinnati Gas & Electric Co.

## New Director To Give Woman's Viewpoint



Mrs. K. B. Norton

**A**GREETING with officials of the Westchester Lighting Company that a woman's viewpoint would be valuable in the management of a public utility, stockholders of the concern, at their annual meeting March 2 elected Mrs. Kenneth B. Norton of Bronxville, N. Y., a director. She is the first woman to serve in that capacity in the Consolidated Edison System, of which the Westchester concern is a subsidiary.

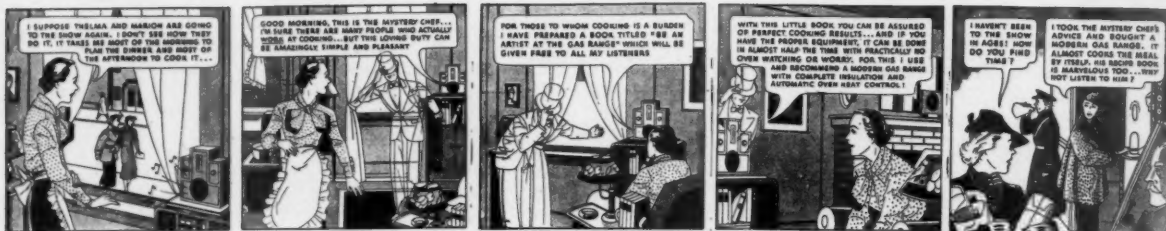
Mrs. Norton is a former president of the Westchester County Federation of Women and is widely known for civic and welfare activities.

"Westchester County is largely a residential community and the business of our company is therefore largely with the home," said Edward P. Prezzano, president of the Westchester Lighting Company. "For some time we have been looking for an outstanding woman as a member of our board of directors, which formulates the general policies of our company, and one who would interpret for us the woman's viewpoint as it affects our business.

"It seems to me that Mrs. Norton's wide experience with women's organizations would be particularly helpful to us. When the matter was discussed with the chairman of our board of directors, Floyd L. Carlisle, he approved."

# THE MYSTERY CHEF

takes the mystery out of good cooking



Comic strip featuring The Mystery Chef which was used most effectively in advertisements of The Washington Gas Light Company.

I purchased a new gas range last June and wouldn't give it up for anything else in the house. I also have a copy of "Be an Artist at the Gas Range" and find the recipes very interesting.—Mrs. D. L. C., New Britain, Conn.

At the end of your radio broadcasts I heard you ask for reports on reception. I can say that over here in England I receive your station W2XAD very well at full loudspeaker strength. In fact I turn on your station practically every evening which is afternoon to you. Two Saturdays ago I happened to switch on your station and heard the Mystery Chef broadcasting for the Washington Gas Light Co. It was quite an interesting viewpoint seeing that I myself am an employee of a gas company and that gas companies over here do not advertise by wireless.—Mr. D. A., London, Eng.

I want you to know how much I have appreciated your broadcasts during the past year. They are the most practical and interesting of any that are on the air.—Mrs. C. E. B., San Diego, Calif.

It was so very kind of you to have sent me your wonderful cook book which I value most highly. It has just the kind of recipes my family like the most and also those valuable household tips. I have in my household a father, a husband, and two strong healthy boys, all appreciative of wholesome and well-cooked food and your little cook book will aid in keeping them healthy and happy which is a mother's job. I am looking forward to many happy hours in my kitchen. I love cooking and with gas one is not afraid the fire will die down through inattention or that something will happen to wiring or fuses in the middle of preparing a meal. Thank you so much.—Mrs. L. E. D. M., Brantford, Ontario, Can.

I would be ungrateful indeed if I did not acknowledge and thank you a thousand times for your generous response to my

Reproduced here are only a few of the hundreds of letters received daily by The Mystery Chef from enthusiastic listeners to his radio broadcasts.

letter of questions. It was a great deal more than I expected and it must make you very happy to perform such kindly acts. I must particularly thank you for the lovely book plate. It was a pleasant surprise and I loved it. The year is still new enough to wish you and your "darling wife" all the good things you would wish for yourself. May God bless you both.—Mrs. J. A. M., Providence, R. I.

You asked your radio hearers to write concerning the cook book for children you intend writing. I think it an excellent idea. My ten-year-old son heard your broadcast and eagerly urged me to write you. About a year ago when I was ill I remarked to my son that I would like a cup of coffee. He said he would make me a cup. "Please mother it makes me feel important," he said. So you see I think your idea is grand.—Mrs. A. C., Long Island City, N. Y.

For some time I have wanted to write and tell you how much I enjoy your broadcasts, also your fine cook book and the grand recipes in it. But I feel urged to write now because of the fact that I made the Christmas Cake you gave over the air just before the holiday and I iced it and yesterday we cut it for the first time. It was really grand and I want to thank you for that recipe. I intend to use it for birthday cakes for my family hereafter because it can be made weeks ahead and they all enjoy it so much.—Mrs. H. B., Bronx, N. Y.

You have given me an agreeable culinary outlook on life. Having been born, reared and lived for thirty-eight years in institutional surroundings it had been my daily task to eat three meals a day without remarks, and to eat anything and everything

set before me. Suddenly all was changed and I found myself in a tiny apartment, in a home for the first time in my life. Life was not all roses—for I soon found home cooking to be far from what it was claimed to be.

Last January a young cousin came and brought a small book by a strange man called the "Mystery Chef." Then a foster-daughter came home to live. In desperation I turned to the Mystery Chef and believe it or not, he has turned me into one fine cook!

We delight in Scotch Collops, Student's Ragout, Goulash and in vegetables. For the first time in my life, I believe, I am enjoying meals. We live well and for less than a dollar a day. We have all our meals at home except when invited out and entertain a good deal. I have found it perfectly safe to try new dishes on company for we have had all successes so far! This is only one in a thousand fan letters but if you take the time to read it you will know that we are second to none in appreciating the help your grand little book has given us.—J. E. M., New York, N. Y.

I am a bride of 2 years and my husband works for the Gas Company so naturally I have a gas stove and am very proud of it. But I have discovered that it takes more than a good stove to make a good cook. Pie crusts were my hoodoo, and my mother is such a good pie baker that I suffered greatly in comparison. I tried your recipe in your cook book and my husband said it was the best I ever made—in fact I had to make four of them in two days. Now I'm going home and teach mother how.—Mrs. W. B., Tacoma, Wash.

May I thank you for your splendid broadcasts, which have been of great help in my housekeeping? I have and use constantly your new cook book and share it with my friends who have not a copy.—Mrs. I. M. B., Pt. Pleasant, N. J.



I have been an interested and well repaid listener for sometime. Thank you for many fine recipes and the art of cooking made so easy. I have a son who will be ten years of age in one week and he danced with glee at your announcement that there may soon be a cook book for juveniles.

Aside from the benefit acquired from a book of this type you describe, think of the joy of having your son, side by side with you in such a companionable way. We shall love it—so don't disappoint us! We use gas exclusively in our home for cooking, hot water and even heat!—Mrs. D. L., Danbury, Conn.

I would like to have a cook book for I just love to cook. My father said that the next time I fry an egg to fry him one too. He says I do it swell. My brother is one year old and I hope he can fry an egg like I can when he gets big. So I hope you make the child's cook book.—Master D. L., Danbury, Conn.

I have just finished eating a piece of the most delicious Lemon Pie I have ever tasted. Of course you guessed it, it was made by the Mystery Chef recipe, but I want the whole world to know about it. I have always considered my Mother one of the finest cooks and bakers that I had met. Her pies and cakes were always something to look forward to but we didn't know what we were missing.

After listening to you describe the simple method of making real pastry, she promised us a treat, but how could we know she would surpass even her own good pies. This was something you dream about. Bottom crust dry, crisp and flakey and such a delicious flavor. There was a small piece of the pastry left over and mother baked as a cookie. Did you know it is grand like that? Mother wouldn't think of missing one of your programs, so for the sake of our appetites, I hope they continue.—Mrs. G. B. H., West Haven, Conn.

I always listen to your program when possible and have used many of your recipes with success. My daughter, a bride of 2 months never did any cooking at home. She has done all her cooking since she is married from your cook book and does very good. She keeps her book right near the gas stove.—Mrs. G. K., College Point, N. Y.

While writing this, you are just talking about how to get your book "Be an Artist at the Gas Range." Ever since I was married, about 5 months ago, your recipes and cooking hints have been of more help to me than any book I've had.—Mrs. D. C., Boulder City, Nev.

Many thanks for your cook book, "Be an Artist at the Gas Range." Have tried quite a few of the recipes with grand success.

Mrs. G. G. B.  
Atlantic, Mass.

I am very anxious to learn how to cook and I am sure other girls and even boys would like to learn and it would be fun if they had a cook book all their own. Lately my sister and I have been helping my mother do her Saturday baking. This morning you said if enough children wrote you about the cook book, you would consider writing one for them, and I am writing to say that I wish you would because it would be such a help.—Miss A. R., Dobbs Ferry, N. Y.

My children seem very much enthused over the prospect of a child's cook book. One of my boys is quite a baker in addition to being able to do the usual rudimentary cooking as taught in the boy scout camping expeditions. Do go on with it and let us know how to get one of the books when they are ready.—Mrs. M. G. R., Tuckahoe, N. Y.

I have been keeping house and cooking for my family for nearly twenty-five years now and a host of guests from time to time besides, and I can truly say, in all the years, never have I found a cook book that met my needs so fully as the "Mystery Chef" cook book obtained from our local gas office. In fact I appreciated it so much I had my daughter get one for her "hope chest" the last time she went to pay our bill.—Mrs. H. B. S., Manchester, Conn.

Received your wonderful cook book and I want to thank you for being so kind sending it to me. There are lots of good things in that lovely book.—Mrs. C. V., Poughkeepsie, N. Y.

**"Mama says  
GAS COOKS BETTER  
AND COSTS LESS"**

CHILD TONY—grand talk of the house! And the grand cooking that the house will have when natural gas! Nothing can equal the heat, the adaptability, the ease and the economy.

That's the reason, thousands of families have turned to gas in their homes to make so quality that the smaller houses and those who cannot. Thousands of families should be convinced as to gas ranges, the economy in cooking and baking. And the modern "natural" cooking requires less adjustment to a new low degree in that the water will not boil dry. Natural gas does, gives you instantly, just the degree of heat you want.

It gives you the speed you want, too. It's the source of all practical truth. More than that, it gives you about two cents' use of every dollar you spend for the gas table food. Many dollars used that later dissipated in useless consumption. You'll find it easy to see the difference of your gas appliances thanks to gas company truth, convincing and helpful.

FOURTEEN ADVERTISING AGENTS—FOURTEEN COUNTRIES—FOURTEEN  
AND SEVENTEEN MILLION NATURAL GAS STOVES

**NOTHING EQUALS Natural Gas**

A recent advertisement of three Los Angeles gas companies which has strong human interest appeal

I have been keeping house for over sixty years, and in all that time, I never attempted to make a Plum Pudding, as I had an idea it was too heavy to serve after a hearty meal.

But one day, while listening to your radio talk, as I always do, I heard you give a recipe for Plum Pudding—and it sounded so delicious and tempting that I made up my mind to try one. I did and it was a success. I have followed many other of your recipes, also, but I was so pleased with the success of my first Plum Pudding that I thought I must write and tell you about it. Which just proves that one is never too old to learn new tricks!—Mrs. C. W., South Orange, N. J.

I am a girl of fourteen, and I listened to your program last Saturday, and heard you talk about a cook book for children, and I agree with you, I think it is a great thing as I love to cook.

I also tried your recipe for the candy you gave over the radio called, "Cocoanut Fudge" and everybody raved about it, and I, or rather my mother, got one of your cook books, "Be an Artist at the Gas Range" and she wouldn't part with it.—Miss L. G., Springfield, Mass.

May I express my appreciation for your booklet entitled, "Be an Artist at the Gas Range," which I hurried to get just before Thanksgiving. I had heard you a few mornings before but not being able to get down town at the time I sent my husband in to get it.

My Thanksgiving dinner was a great success due to your timely recipe for chestnut dressing. I had never cooked a turkey before and knowing that my mother always made chestnut dressing I wanted that. I roasted the bird just as you suggested and it was a treat to the eyes. All golden brown and moist. My guests went into the kitchen later and picked the bones. Not a day goes by since I have had your booklet that I have not made something. I have apples baking your way now. I am sincerely grateful to you and your broadcasts.—Mrs. W. F., Washington, D. C.

Have listened to your broadcasts for a number of years and daily use many of your recipes. In fact your small book is simply "dog eared" with constant use. Therefore I was very pleased to hear that you were giving away your new cook book to users of gas.

Mrs. F. H. O.  
Washington, R. I.

I have your cook book "Be an Artist at the Gas Range" and am more than proud of my success in the preparation of my meals. I also store my food in a gas refrigerator and cook and bake in one of the new gas ranges.

Mrs. J. N. S.  
Kingston, New York

# Recent Research on Domestic Gas Ranges



F. O. Suffron

**I** BELIEVE we are all fully aware that the gas range, in spite of extensive progress in other domestic gas utilization fields, still constitutes the base load of our industry; that the gas range is not only a most

attractive target for our competitors but one being shot at with increasingly greater vigor if not better aim; that the gas range has become and must continue to be more and more a scientifically engineered, streamlined cooking machine instead of just a stove, in order to meet modern requirements of automatic performance and beauty; and, finally, that as the knowledge of food chemistry and food preparation by application of heat becomes more comprehensive and exact, the requirements of temperature control and heat application for any cooking appliance will become more rigid.

## *Responsibility for Research*

If we recognize these facts we must of necessity admit the need now and in the future of constant endeavor to improve through the medium of research and development the application of gas heat to cooking processes. As in the past, we must continue in the future to rely greatly on the initiative and ingenuity of our appliance manufacturers in such improvement work. However, they should not be expected to shoulder this responsibility alone, particularly as the needs of the times are demanding greater progress than ever before in our history.

The American Gas Association recognizes its responsibility in this direction. Its Executive Board inaugurated in 1935 a program of fundamental research on gas ranges under the guidance of the Committee on Domestic Gas Research, of which F. J. Rutledge, vice-president of The United Gas Improvement Company, is chair-

## By F. O. SUFFRON

Supervisor, Pacific Coast Branch,  
A. G. A. Testing Laboratories

man. This program has been vigorously prosecuted, at the Testing Laboratories of the Association.

The objective of this research project has been to procure fundamental data concerning combustion of gas and the application of gas heat to domestic cooking processes which might be more readily obtained at the Testing Laboratories than through individual enterprise. At no time has there been entertained any thought of supplementing the development and engineering work which is properly and logically the function of the manufacturer. Rather, it has been the intention to provide basic data which could be of assistance to engineers in solving the difficult technical and manufacturing problems involved in gas range development and production. In brief, the objective of this research is to provide insofar as possible what might be termed "hand book" data.

Work thus far performed has included studies of oven, broiler and top section performance, and has involved such factors as combustion, heat losses, insulation, venting, efficiency and speed. It is my purpose to summarize briefly certain of the results so far obtained.

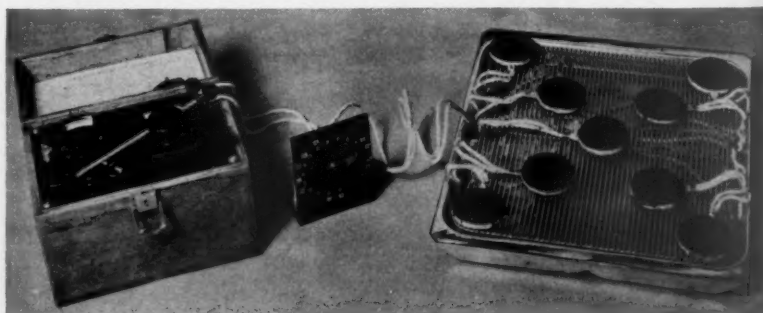
## *Oven Sections*

Heat losses from ovens may be generally classified as flue losses and wall losses. Both of these represent a distinct and unrecoverable loss of energy,

and if conditions can be altered to decrease this loss, heat inputs required to preheat the oven and to maintain it at any temperature will be reduced.

In general, little can be done to reduce the flue temperatures of gases emitted from the oven proper, since such temperatures are, obviously, of approximately the same magnitude as the temperature of the gases circulating in or around the oven itself. A great deal can be done in most cases, however, by reducing the volume of gases carried away through the flues, which consequently results in a reduction in the total heat loss.

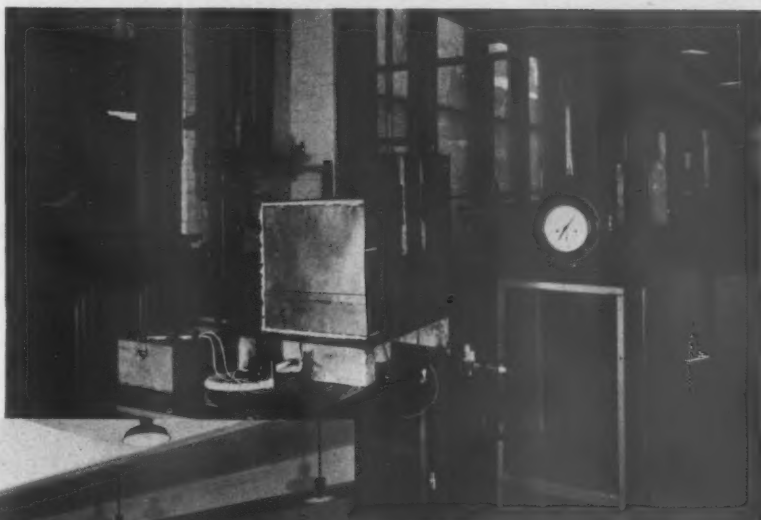
The total volume of gases passing through the flue is dependent, in part, on the amount of excess air admitted to the ovens. If this volume can be reduced, then the total volume of products will be reduced in proportion and the heat losses will be less. In general, there are two means by which the flow of excess air can be restricted; first, by reducing the area of secondary air openings, and second, by placing restrictions in the flueways. With conditions inherent with most ovens it seems that the minimum percentage of excess air which is needed for satisfactory combustion is in the neighborhood of from 50 to 75 per cent at the rated input to the oven. It is important to note that with excess air reduced to this point, it is necessary that most of the secondary air utilized be caused to pass through the combustion zone so as to be available for the combustion reaction. Consequently, it will be found advisable, generally, to so locate



Arrangement of thermocouples for determining broiler temperatures

baffles in respect to burner ports that the proper direction of secondary air is effected.

When an oven equipped with a throttling thermostat reaches any particular temperature, the gas supply is throttled by thermostatic action and the percentage of excess air increases. Data collected during this investigation indicated that with changing gas rate due to thermostatic action, the total volume of flue gases remained substantially constant when reduced to standard conditions of temperature and



*Some of the apparatus for determining effects of various thicknesses, densities and types of insulation on oven preheating inputs, preheating speeds and maintaining rates*



*Studying performance characteristics of modern gas ranges*

pressure. Thus, any restriction which is incorporated to control the flow of excess air during the periods of maximum input will likewise affect the flow during the periods of reduced inputs, and it can be shown that the reduction in excess air supplied to an oven will effect a worthwhile decrease in the rate required to maintain a given temperature.

For example, it was found that in a special laboratory test oven a reduction in excess air, at the rated input of the oven, of from 200 per cent to 50 per cent resulted in an excess air reduction of from 490 to 290 per cent during maintenance of a 500° F. oven temperature. The gas rate required to maintain this temperature was reduced 26.5 per cent by this reduction in ex-

cess air. Thus a very substantial economic advantage obviously results from more precise control of secondary air.

The beneficial effect of such control was evidenced not only in a reduction in maintenance rates but also, as would be expected, in preheating inputs and preheating time. We must recognize, however, that in general, any appliance will become more critical in its performance as the percentage of excess air is decreased. Thus, to gain without sacrificing safety, the economic and speed advantages possible with precise secondary air control, it will be necessary to insure accurate adjustment of appliances and possibly to provide for gas pressure control. No one can say at this time to what extent these defi-

nite objectives can be applied in practice in the future.

#### *Heat Losses Controllable*

Heat losses resulting from heat flow through the walls of an oven are likewise important and controllable. A great many tests were made at the Laboratories to determine the effect of density and thickness of insulating materials on these losses. It will be well to pause at this point to explain that the usual conception of the duties of insulation are somewhat altered in the case of a gas range oven, in that one of the important periods of operation of an oven is the preheat cycle, wherein the heat capacity of the insulation is just as important a characteristic as its insulating value. That is to say, if an insulation is of such a composition that it absorbs relatively large quantities of heat, it will necessarily serve to retard the speed of preheating and to require greater preheating inputs, even though resistance of the insulation to heat flow during equilibrium temperature conditions may be very effective.

Measurements of the effectiveness of insulation during the preheating period are the amounts of gas or the time required to bring the temperature of the oven to a predetermined point. In general, on considering the more usual types of rock and mineral or



slag wools, the preheating input increases as the density increases due to the increase in heat capacity or heat absorbing capacity of the insulation. This fact is particularly noticeable as the thickness of the insulation is increased. When the thickness of the insulation is being maintained at about 1 inch, there appears to be little effect exerted on preheating speed or input by changes in its density.

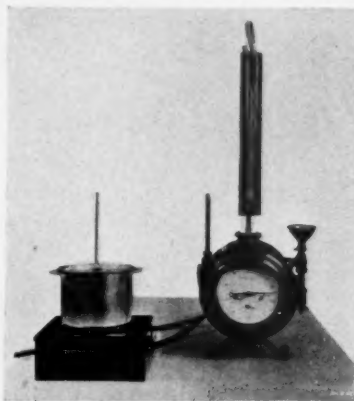
#### *Insulation Data*

During maintenance periods the density of the material becomes of even greater importance, and it was found that as the density of insulation increased the wall losses decreased, and the amount of gas required to maintain a given temperature became less. This finding was of unusual significance in that it is contrary to the behavior of insulating materials at atmospheric or refrigeration temperatures. In addition, these data have practical significance in that insulation can be packed to greater densities than heretofore with the assurance that greater freedom from shifting and settling as well as better insulating value will be obtained.

Of great importance to a gas range designer is the subject of thickness of insulation. In discussing this subject, there are two factors which must be considered. One is the economical question of controlling heat losses which may be expressed as efficiency. The second is the reduction of surface temperatures, an item of extreme importance, since it influences to a large degree the temperature of the kitchen and the effect on the operator who must at times come close to and in contact with the surfaces. Furthermore, there is a distinct psychological problem, wherein a customer's impression of the effectiveness of insulation is influenced by the hot spots which may occur on the surface, regardless of the comparatively small effect these may have on the reduction in fuel. As the thickness is increased, the heat losses from the walls will become less. It is important to understand, however, that these reductions are not a straight line function of the insulation thickness. The greatest saving in fuel consumption occurs during the first inch of insulation and the reduction in heat losses becomes progressively less as the thickness is increased.

It was found with the special test oven that when 1" of insulation was used the fuel consumption was reduced by approximately 33 per cent over that required when the oven was uninsulated. Subsequent increase of insulation thickness from 1 to 2 inches resulted in further fuel reduction of only 11 per cent. Finally, an increase from 2 to 3 inches of insulation was accompanied by an additional fuel consumption decrease of only 5 per cent.

This brings about the possibility of an interesting setup, wherein the original cost of insulation may be weighed against the resultant savings in operat-



*Equipment used in determining top burner thermal efficiency*

ing expense. If we assume that a typical oven consumes 5 million B.t.u. per year, at an average cost let us say, of 18.2¢ per hundred thousand B.t.u. and further assuming 1" of insulation on a range to cost \$10, we find that the addition of the 1" insulation will result in a return of approximately 40 per cent on the insulation cost. If, however, the insulation is increased to 3", at a total cost of \$30, then the return on the investment will be only approximately 20 per cent per year. There seems to be some question, therefore, as to the thickness of insulation which can be justified from a purely economic standpoint. Surface temperatures, on the other hand, are becoming more and more important and will probably act in the future as a guide for determining the desired thickness of insulation.

Of great importance in the problem of oven wall losses is the heat flow through metal to metal contacts. No

matter how much insulation is placed on an oven, its effectiveness will be greatly impaired if thermal short circuits are tolerated between the inner linings and outer walls of the oven structure. As an example, elimination of metal to metal contact during this research on the special oven having a 1" thickness of insulation resulted in a reduction in the maintenance rate, at the 500° F. setting, of approximately 36 per cent. To accomplish similar reduction in maintenance rate by increasing the thickness of insulation, assuming the metal to metal contact was retained, it would have been necessary to increase the thickness more than any reasonable amount over that now found on contemporary ranges. This factor is recognized in most contemporary industrial oven design.

#### *Effect of Input Rate*

The effect of nominal input rate on preheating times and speeds was another interesting problem studied during this investigation. It is now common practice to rate oven burners on the basis of 8,000 B.t.u. per hour per cubic foot of oven space although higher inputs than this are employed in many cases. Studies made of the effect of input rate increases above 8,000 B.t.u. per cubic foot of oven space on 11 different types of oven construction showed in every case that decreases in preheating time while not proportional to increases in input rate were, nevertheless, quite substantial. The average relationship found indicated a 35 per cent decrease in preheating time for an increase of 100 per cent in input rate. From an economic standpoint, increases in input rates were not found to prove advantageous in that generally higher preheat inputs were required as the input rate increased. However, increased preheat inputs would, perhaps, be considered by many as being more than compensated for by the faster preheating speeds.

#### *Oven Burner Design*

One of the most interesting technical problems facing the industry today is that connected with the design of atmospheric burners. A great deal has been published in the literature particularly pertaining to the work of the National Bureau of Standards on this

(Continued on page 137)

# Home Service and the Sales Manager

**T**HERE are two thoughts in relation to home service which are fundamental, and which I ask you to bear in mind. The first can be illustrated best by recounting an incident which happened a few months ago.

A successful home service director—depending on how you interpret success—asked me, "Mr. Franck, have you any specific suggestions as to what you would have me do to improve the usefulness of my department?"

In answer to her question, I said, "At the moment, 'no,' but you will always be right, in the eyes of the management, if you remember this and act accordingly. Let us assume that it costs the company \$50,000 a year to run your department. This means, in order to justify its existence, you have to be able to account for the retention, if not additional sale, of a quarter of a billion cubic feet of gas annually—and that is a lot of gas."

The second thought is this: Let us, for the sake of this discussion, separate home service from the sales department—if it is there—and consider it an entity by itself. If you remove the production department, you have no gas business. If you eliminate the function of distribution, your business expires immediately. Remove book-keeping, billing and collections, and the early demise of your business is inevitable. Discontinue the sales department in this competitive era, and the decline of your business would become evident immediately. But, cut out the home service department, and it probably would be a very long time, if ever, before you would notice any critical effect upon your company's well-being. This circumstance places home service in a vulnerable position, as its sole function obliges it to contribute "plus values," and this is not true of any of the departments previously mentioned.

By **BERNARD T. FRANCK**

Sales Manager,  
Grand Rapids Gas Light Company

Let no one construe these statements as an attempt to deprecate the value of the right kind of home service. Like good advertising or a well-trained sales personnel, it rates highly as an important phase of an adequate, comprehensive promotional program. Mind you, I said the right kind of home service. If it is not that kind, while admitting it has some value, I seriously question whether the general manager, or the sales manager, can honestly write

In his stimulating address before the mid-west sales conference, Mr. Franck gives a lucid account of the change which has come about in home service in its relation to the sales department. From a "teach but do not sell" conception of its function in the gas industry has come a new conception brought on by the depression and electric range competition. Home service under this conception must justify its existence in the industry by accounting for additional sales, says Mr. Franck. His views are thought-provoking and well worth careful study by home service directors, sales managers and general managers alike.

off his home service expense with the words, "for value received."

Now for the review:

You know the old story about commercial bakeries, delicatessens, and canned foods making inroads into the domestic cooking load. About fifteen years ago someone got the bright idea—there is no sarcasm in that—of commencing an activity to counteract this detrimental influence. This activity eventually became known in the gas industry as home service. I do not have to speculate about what they, who were putting the idea into effect, thought. I was in the gas business then. I know.

There was no competition at that time as we understand it today. Practically no one living "on main" cooked with anything but gas, or even thought of cooking with anything but gas. So these men said, "This will not be a sales activity. Let us not taint home service with commercialism. To do so

will defeat its purpose. We must teach women how easy it is, how economical it is, to prepare fine foods, even fancy foods, at home." And I believe these men were right fifteen years ago.

Now, to conduct an educational program you need teachers; and the logical place to look for teachers is in schools. However, if someone who was already teaching was not available at the time, our home service workers were recruited from women who had been trained or were training for teaching jobs.

And from then on, and for the next ten years, the rule was "Teach, but do not sell." So it came to pass, that the

women who started the work merely taught but did not sell, and the women whom they inducted into the business, who, in some cases, became their successors, were trained likewise.

Except for the general idea of what they were after, the men who first thought of home service did not know exactly what to do to put the

idea into actual practice. Of necessity, they left its development to those whom they had engaged for the purpose. And, in all justice to these pioneers, they did a commendable job—classes, recipes by the millions, home calls and a multitude of kindred activities.

Well, until 1929 or 1930 everything was fine.

Then, two major changes occurred outside of the gas industry which upset the picture—they happened suddenly and grew at an alarming rate. I refer to the depression and electric range competition. Both were under-rated from the start. After the stock market collapse of 1929, we were advised that it was just a flurry, prosperity was around the corner, the pump needed only priming. Electric cooking was pooh-poohed—it was not as good, it cost too much and so forth. You know the real answers.

As each one increased in severity,





service personnel, "Teach, but do not sell."

To be sure, some new blood found its way into our ranks; but unfortunately a good part of it went into subordinate positions where its chances for self-expression were restricted.

It sometimes seemed to me, too, that some executives were, and perhaps are, not in sympathy with a new home service technique. When they think of a sales minded home service department, they visualize its personnel running around with appliance catalogues and price lists in their hands. However, that is preposterous.

#### *Manufacturers' Demonstrations*

Well, my friends, despite these handicaps, matters have been getting better and are improving right along. One of the first, if not the first group, to inject new life, a new angle into platform work, were the gas range manufacturers. They gave us men like Paul Dorsey and Carl Sorby, and, more recently, Frank Decatur White.

The first time I saw Dorsey in action was a little over a year ago. I had heard quite a bit about him from a few gas men, mainly his competitors—in fact, so much so, that I went to Philadelphia to see and hear him perform. He showed his audience what one can really do with a modern gas range.

For those of you who have not witnessed his demonstration, let me say, that he visibly exploded the idea that you need an expensive deep well cooker, by cooking a full meal, from meat to dessert, in an old battered aluminum pot, on the top burner of a modern gas range; he prepared vegetables the waterless way in glass dishes, tinware and enamel ware, showing his audience that you could do any kind of top burner cooking on a gas range, without an array of special utensils; he prepared a roast, cakes and a complete meal in the oven without basting or pecking; and, finally, he broiled a steak right in the flame of the broiler, and invited people to come up and sample it, and prove to themselves that you could not taste the gas. His demonstration was accompanied by an instructive, interesting lecture. Incidentally, from his lecture there was evolved, or at least popularized, the



*George Ernest, member of the cast of "Big Business," a Jones Family serial produced by Twentieth Century-Fox, looks on with pleasure while his mother, Spring Byington, prepares a stack of hot cakes for his breakfast using the griddle on a deluxe model gas range*

slogan "You can cook by any favored method when using gas."

I went away full of enthusiasm, and as soon as it could be arranged, Dorsey presented his program in the home service auditorium of one of our properties. This was on March 6 last. To this performance were invited as many of our executives, sales managers, sales and home service personnel as could conveniently attend. Several people not in our organization, but in similar vocations, also were present.

Dorsey put on a better show than he did in Philadelphia. To say that I was again highly pleased is putting it mildly; I really beamed and basked in reflected glory. When it was all over, I eagerly asked a home service director how she liked it. "Well," she replied, "He didn't season a single thing." That wasn't the answer I expected.

For some four years or so I have enjoyed the privilege of being an advisory member of the Home Service Committee of the American Gas Association. The women on this committee, whom I assume to be typical of the hundreds of other home service employees in our industry, for the most part are progressive. They recognize the change which we feel is needed in their activities. They have made many

strides in the right direction. But, they have been handicapped—handicapped by the viewpoint which I have just described to you, which still prevails in some situations, and, handicapped by a similar circumstance which existed when home service first began. You remember what I said about executives in the gas industry having a general idea—an idea with no definite or detailed plan for carrying it out? That is why home service did not blossom over-night but took years to grow. It was a case of "cut and try."

#### *New Home Service Technique*

Now the competition is more direct; the pressure is a little more acute, and it is likely that it makes us more impatient for results. But, again we had only an idea, again we had no consummate plan and again it was largely the same old matter of "cut and try." However, today we are past that stage, and have been for a long time. Surely the home service technique of former years will not suffice for 1937.

The question of changed conditions is not a matter of conjecture. The change has taken place; it is here, and it is manifest. Where once it was necessary to teach our customers only

(Continued on page 156)

# Your Association—

## What It Is *and* What It Offers

II  
IN shaping the policies for the American Gas Association, its founders said: "The new Association will be organized to carry out, on national lines, exactly the kind of work that a single gas company would undertake for its own and the public's benefit if it controlled the entire industry." That is an explanation of the Association's work in its simplest form.

Before 1871, when the first gas association was formed, no facilities existed within the industry for a meeting of minds and interchange of information, except by individual visits. Today the American Gas Association is a highly geared machine ready for action on many different fronts. It is constantly performing a multitude of services but its full usefulness cannot be reached without a thorough understanding of its setup by its members and a constant exercise of the privileges of membership.

Since gas companies, unlike units in most industries, are not competitive with each other, but are under public regulation, the organization of the American Gas Association is not like that of most trade associations.

Headquarters with a sizable personnel are in New York, and the Association also maintains a permanent staff at the main A. G. A. Testing Laboratory in Cleveland, the Pacific Coast Branch Laboratory in Los Angeles, the office of the Natural Gas Department in Dallas, and a gas sales

Mr. Forward's earlier years were spent in newspaper work in various cities of Virginia. In 1914, he was appointed secretary to the then incoming Governor, Henry Carter Stuart, and served in that capacity during the four-year term. This included the earlier months of the war when the Governor's office, to a large extent, administered the war activities.

Effective February 1, 1918, Governor Stuart appointed Mr. Forward a member of the State Corporation Commission, which regulates the public utilities of Virginia, and also administers the securities or blue sky law, the examination of State banks, the regulation of insurance companies, and the assessment of railway and all other utility property for taxation, State and local. Shortly thereafter, Mr. Forward secured a leave of absence for war service and became director of relief supplies for the Balkan States, as an officer of the commission charged with relief work in Serbia, Rumania, Greece, Albania, Montenegro and Bosnia and was decorated by the late King Ferdinand with the Order of the Crown



Alexander Forward

of Rumania. He returned to duty with the commission in July, 1919.

Mr. Forward's work in the field of regulation was recognized by his successive election by unanimous vote as second vice-president and first vice-president of the National Association of Railway and Utilities Commissioners. He was chairman of the executive committee of that organization, and chairman also of a special committee to revise its constitution. His engagement with the American Gas Association and consequent resignation as a State Commissioner prevented his election to the presidency of the regulatory commissioners. During the railway-coal strike of 1922 he was State Fuel Administrator for Virginia.

His duties as secretary-manager of the Association began in 1923. He became managing director in 1926. Since that time, he has guided the Association through a period of expanding activities and greater usefulness to the industry, yet not losing sight of the major objectives for which the Association was established.

office in Washington, D. C. In all, about 100 people are employed by the Association to carry on its work. A glance at the accompanying chart will show the personnel setup as it now exists.

The staff for the most part has been drawn from the gas industry which it represents, hence as individuals they have a natural understanding of and loyalty to their everyday jobs of furthering the interests of the industry, and are in no sense professional trade association men.

The policy has been to provide for the specialized handling of sectional and special activities and at the same time to maintain a staff sufficiently flexible to permit cooperation and concentration on the more pressing problems as they arise. In line with this policy related activities have been combined wherever possible as illus-

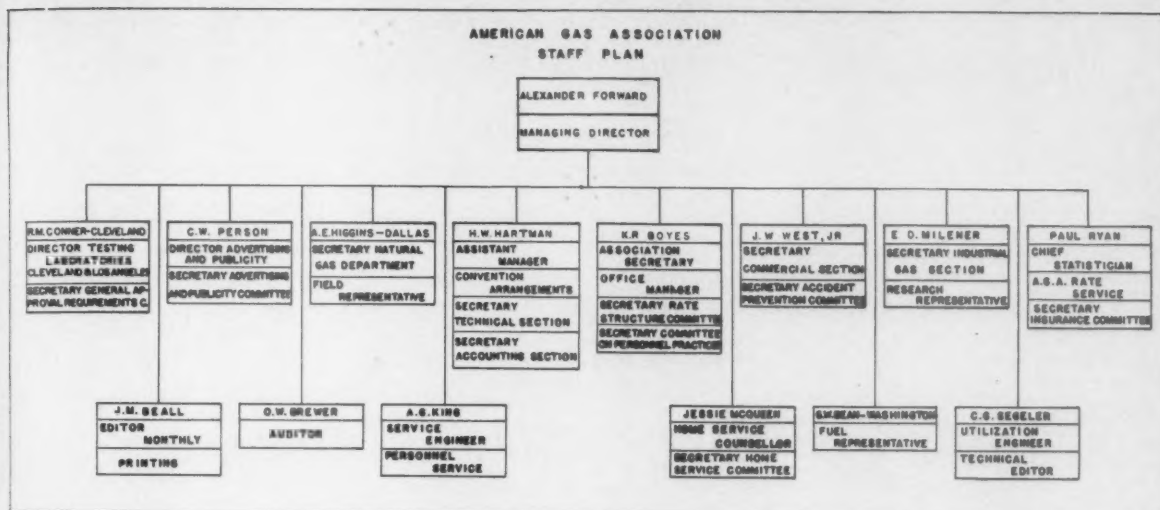
trated by the dual functions of several of the headquarters' staff.

Most of the work of the Association is carried on by means of committees assisted by the permanent staff. Activities are grouped under the Natural Gas Department, five sections, namely, Accounting, Commercial, Industrial Gas, Manufacturers' and Technical, and a number of general committees dealing with problems which cannot appropriately be assigned to any of the sections.

The Association's affairs are administered by an Executive Board, which consists of outstanding men in the gas industry who are elected at the annual

convention. The directors are all busy executives and their devotion to the affairs of the Association is a constant inspiration to the staff. The Executive Board exercises exclusive jurisdiction over all affairs pertaining to the Association's management except when the annual convention is in session. Supervision of the permanent staff is vested in the managing director who is responsible to the Board.

As supervisory head of the Association the managing director not only coordinates all the activities of the Association but performs many additional functions as well. First of all, it is his duty to see that the entire program of the Association as outlined and adopted by the Executive Board is carried out and that the budget set up by that body is faithfully followed. In doing this the managing director has the advice and counsel of the president



who is elected yearly at the annual convention. By keeping in constant touch with the president, a coordinated and effective leadership is maintained.

The managing director must have his finger on every activity going on throughout the wide field touched by the A. G. A. In directing the various undertakings it is he, under the President and Board, who determines where the emphasis should be placed and whether the essential balance of the Association's work is being maintained. He reports the progress of the work to the Executive Board and also makes an annual report to the convention outlining the year's work.

#### *Affiliated Associations*

The managing director and others of the staff frequently address the annual meetings of state and regional associations affiliated with the A. G. A. The original organization plans of the Association contemplated affiliation with these various state and district gas associations. Affiliation agreements were rapidly consummated which have led to harmonious and mutually beneficial relations over a period of years. A close coordination exists in the work of the national and state associations on all problems not purely local in character. While the A. G. A. has no control over the regional groups and no financial arrangement exists, close, effective and pleasant relations have resulted. The regional associations have always had their own constitution and by-laws and maintain sep-

arate and independent organizations and work.

In addition to his appearances before state and sectional associations, the managing director also discusses matters related to the gas industry before other national organizations. This is true not only of national bodies on which the gas industry or the Association are represented but on others as well. The Association actively participates in the work of American Standards Association, the National Safety Council, Chamber of Commerce of the United States, the National Fire Protection Association, National Industrial Conference Board and other such organizations.

National and state trends, legislative, economic and otherwise, are constantly watched by the managing director and the secretary, who keep the membership informed of important developments by means of periodical service letters. The Association, through its central organization and by virtue of its position and prestige, is able many times to keep local companies informed of developments which vitally affect them and about which they would otherwise not be so promptly nor so fully apprised. It would obviously be difficult for an individual company or person to act in the same capacity with equal efficiency.

Frequently delegations and individuals representing the gas and allied industries in foreign countries call at Association headquarters for informa-

tion on the gas industry in this country. The managing director, personally or through members of the staff, assists these delegations to obtain the information desired. He also maintains cordial relations with the representative trade associations and authoritative bodies in foreign countries. Through these contacts much valuable information on gas practice in other countries is obtained.

#### *Work Coordinated*

Any program of work originating in the sections, the Natural Gas Department or the A. G. A. Laboratories, is first discussed with the managing director, who may then present it to the Executive Board. For example, while the testing laboratories are located in Cleveland and Los Angeles, and are under the direct supervision of a staff member permanently located in Cleveland, the entire work of the Laboratories is closely coordinated with the work at headquarters in New York and all of its activities are subject to the control of the managing director.

At frequent intervals the managing director calls a meeting of the entire staff to discuss the various activities under way. At these meetings each member is called upon to report concerning the phases of Association's work under his particular direction. These meetings, where there is free-for-all discussion, serve to coordinate the work and clear up any internal difficulties or overlapping of duties

(Continued on page 156)



# Chicago Adopts New Industrial Power Rate

**A** NEW source of industrial power has been made available to Chicago business concerns through approval by the Illinois Commerce Commission of a "Gas Motor Service Rate" filed by The Peoples Gas Light and Coke Company. The new rate marks the entry of the gas company into the competitive field of industrial power supply.

Gas supplied to industrial customers at this rate will be used in internal combustion gas motors, similar in design and appearance to the conventional automobile motor. In some cases the motors will supply power direct, in other cases through the medium of electric generators coupled to the drive shaft.

The first installation of these motors was recently made at the Chicago plant of the Armstrong Paint and Varnish Company. Two 400-horsepower gas motors, driving two 265-kilowatt electric generators, were expected to be in operation by April 1. Manufactured by the Chicago Pneumatic Tool Company, each combination unit of motor and generator occupies a floor space seven feet wide and 19 feet long.

## *Gas Engines New to Chicago*

Although new to Chicago, motors using gas for fuel have been in operation for years in other parts of the country, notably in territories where cheap natural gas has been available. A large number of representative motor manufacturers are in the field, making motors of all sizes to supply a demand that has grown by leaps and bounds during recent years as the long distance transmission of natural gas has made possible the introduction of industrial power rates in the larger manufacturing centers.

A complete understanding of the terms of the new rate requires some knowledge of the company's year 'round operating conditions, particularly with reference to the terms under which it purchases natural gas.

The Peoples Company's natural gas contract provides for payment of two charges—a capacity charge which is established by peak demands, and a commodity charge which varies with the amount of natural gas actually taken from the pipeline from day to day.

Development of the company's sales of gas for heating of homes, factories, offices, stores, etc., left the company a substantial amount of gas during the non-heating season—"off peak" gas, in other words—which it could afford to sell at low rates to balance its summer and winter load, since any revenues earned in excess of the commodity charge help to pay the capacity charge established by the inevitable winter peak demands.

The new rate is therefore designed to encourage the maximum use of gas for industrial power in the April to November period. Gas motors being installed are designed to burn fuel oil during the latter months, conversion from gas to oil being a

By WINFIELD FOSTER

The Peoples Gas Light & Coke Company,  
Chicago, Illinois

simple matter of switching from one supply line to another.

Terms of the new rate are 3¢ per therm for the first 1,500 therms of gas used in any month from May 1 to September 30 with this rate dropping further to 2.25¢ per therm for all gas in excess of that amount used in any month during this period; 4.25¢ per therm for gas used in April and October and 12¢ per therm for gas used in gas motors between November 1 and March 31.

Although declining to quote any direct comparisons between the cost of power delivered by gas motors using gas under this rate, and other methods of securing industrial power, engineers for the gas company, who have been testing gas motors for several years, expressed their conviction that this form of industrial power can compete effectively with other forms of industrial power now in use.

Preliminary studies made by the Armstrong Paint and Varnish Company, upon which their decision to use gas motors was based, indicate that savings in power cost will be sufficient to amortize the cost of gas motors in less than half of their estimated useful life.

In this connection, engineers of The Chicago Pneumatic Tool Company, which is one of a number of companies manufacturing gas motors, point to the fact that these motors have an unusually long useful life, speed of approximately 400 revolutions per minute, or less than one-fifth the speed of the average automobile motor. Running at a constant low speed, under ideal operating conditions, using a refined gas of unvarying quality, which contains no dirt or abrasive materials, being completely lubricated at all times, and running in a stationary position, industrial gas motors operate under ideal conditions.

The motors require little attention, starting and stopping being either automatic or controlled by a pushbutton.

Engineers of The Peoples Gas Light and Coke Company explained further recently that application of gas to motors is divided into two main fields:

1. Heavy-duty installations of the Diesel type for continuous application for air compression or in manufacturing ice and ice creams.

2. Lighter duty applications of the automobile type motor in machine shops, garages, filling stations and a large variety of other commercial and industrial plants. Seven leading automotive manufacturers are now in the field with equipment of this type.

## Gas Industry Joins Sponsors of National Home Plan

**J**OINING with ten other major interests, the American Gas Association is sponsoring the promotion of the nationwide program of demonstration homes of the National Lumber Manufacturers Association and the National Lumber Dealers Association, which was announced in the February A. G. A. MONTHLY. The program, which is in cooperation with the Federal Housing Administration, calls for the construction of one or more low-priced demonstration homes in not less than 1,000 communities throughout the nation. Up to February 27 lumber dealers in various parts of the nation had agreed to sponsor 1,598 of these demonstration homes.

Gas companies and appliance dealers located in territories where these demonstration homes will be built are being notified so that they may get in touch with the lumber dealers and arrange for proper representation of modern gas appliances and service in these homes.

All demonstration homes will come within the price range of \$2,000 to \$4,500, lot included, and will be designed in accordance with plans B, D and E of the

FHA Technical Bulletin No. 4. Complete plans and specifications have been supplied to each local lumber dealer sponsoring a demonstration home.

The terms and extent to which gas service may be represented in the demonstration homes will naturally depend somewhat on local competitive conditions. The local sponsor will determine these matters. Manufacturers and distributors of building material and equipment, including gas utilities, are being urged to offer "packaged" cooking, refrigeration, heating and plumbing units for the homes. It is advisable for gas companies to cooperate with distributors of kitchen cabinets so that gas appliances and related kitchen equipment may be offered as a unit.

Gas companies will be supplied with a "Profit Manual" outlining ways and means of capitalizing on the program. Newspaper publicity for local release will be supplied to all gas companies involved. Also gas appliances and gas service will be fully publicized by the American Gas Association in the four-color magazine to be placed in the hands of

those visiting these demonstration homes. Gas companies will have the opportunity to purchase additional copies of this magazine at cost. A series of five sound-slide films, in which gas appliances and service will be represented, are to be used throughout the country in promoting the sale of homes of the type outlined.

A simultaneous official opening ceremony, preceded by nationwide publicity and advertising, has been arranged for Saturday afternoon, May 1.

## Consolidated Edison Makes Executive Changes



R. H. Tapscott



O. H. Fogg

At the organization meeting of Consolidated Edison Company of New York, Inc., held March 17, Oscar H. Fogg, formerly executive vice-president, was elected to the newly created position of vice-chairman of the board and Ralph H. Tapscott, formerly vice-president of Consolidated Edison in charge of electrical operations within New York City, was elected president and a trustee. Mr. Tapscott succeeds Frank W. Smith who, at his own request, was not re-elected to that office in view of his impending retirement at the end of June under the companies' age limit of seventy.

Floyd L. Carlisle, chairman of the Board of Trustees, was re-elected to that office, and the following vice-presidents were re-elected: F. H. Nickerson, R. B. Grove, W. Cullen Morris, A. H. Kehoe, E. F. Jeffe, J. C. Parker, Philip Torchio, John Stilwell, and W. W. Erwin. N. T. Sellman was re-elected assistant vice-president; H. C. Davidson, secretary, and J. R. Fenniman, treasurer. Henry Obermeyer, director of the Advertising Bureau, was elected an assistant vice-president.

Mr. Smith will continue as a member of the Board of Trustees. Also, until his retirement, he will continue as president of Brooklyn Edison Company, Inc., and as president of the New York and Queens Electric Light and Power Company.

In announcing the new officers Mr. Carlisle said, "The Trustees have created for the first time in the company's history the office of the vice-chairman of the Board. This position will be filled by Oscar H. Fogg who has been associated with these companies since 1904, and

who has been executive vice-president of Consolidated Edison since June, 1935. Mr. Fogg is not only thoroughly experienced in the technical and operating phases of the business but is also splendidly equipped for his administrative duties.

"Nearly three-quarters of our revenues come from electric sales. We expect the merger of our principal affiliated companies to be completed during the cur-

rent year. In elevating Mr. Tapscott to the position of president we are following a precedent which has existed for years in our electric companies of placing a technical man in the chief operating post.

"Mr. Tapscott entered the employ of the New York Edison Company twenty years ago. He has had a distinguished career as an electrical engineer and is widely known throughout the industry."

## Gas Exhibits Shown at Johns Hopkins Celebration

As a part of the program commemorating the twenty-fifth anniversary of the Engineering School of the Johns Hopkins University, Baltimore, Md., a technical exhibition was held in the Engineering Buildings on February 19, 20 and 22. Among the exhibits were those representing the Department of Gas Engineering, which embraced the fields of production, distribution and utilization of gaseous fuels.

The results of staff and graduate student research in Gas Engineering under the direction of Dr. W. J. Huff were shown either by apparatus exhibits or by simple demonstrations. The former included a semi-plant scale cracking unit developed by Dr. D. T. Bonney for the study of petroleum cracking; and an experimental apparatus used by M. C. K. Jones in a study of the removal of sulfur from gasolines.

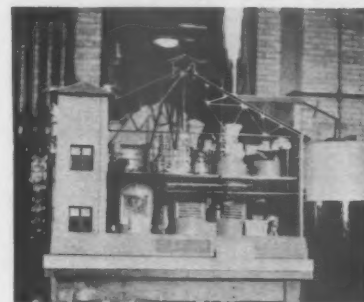
### Flame Recording Apparatus

There was also shown in operation an interesting apparatus for continuously recording the cone height in a Bunsen flame, depending upon flame conductivity for its operation, which has been developed by A. R. T. Denues under the direction of Dr. Huff. Frank Dotterweich's research on the colloidal properties of iron oxides as criteria of activity and capacity was demonstrated by a colorimetric comparison of solutions containing dyes in contact with oxides of varying activity.

Undergraduate experimental projects under the direction of Dr. L. Logan included the microanalysis of gas, the study of radiation distribution in small model furnaces, thermal conductivity of gases and fluid flow experiments.

An operating model of a carburetted water gas set loaned by the Brooklyn Borough Gas Company and a model of the reverse flow water gas set loaned by the Semet-Solvay Company illustrated equipment used in gas manufacture. The distribution and utilization exhibits included operating models of meters, pressure regulators, fluid flow demonstrations, gas refrigeration, industrial burners, thermostats and automatic valves. Gas flood lights, loaned by the General Gas Light Company, were also shown.

One of the gas engineering exhibits



Operating model of a carburetted water gas set shown at Johns Hopkins exhibit

showed large photographs of apparatus employed in research on the production of methyl alcohol from blue gas and on the elimination of organic sulfur from gas by means of catalysts at elevated temperatures and for the simultaneous removal from gas of both hydrogen sulfide and organic sulfur, also at elevated temperatures. This research work was made possible through the support of the Consolidated Edison Company of New York, the Rochester Gas and Electric Corp., the Mars Company and the Consolidated Gas Electric Light and Power Company of Baltimore.

—M. A. ELLIOTT.

## Earle A. Clark Dies

EARLE A. CLARK, vice-president of the Columbia Gas and Electric Co., died at Pittsburgh, Pa., February 27 after a brief illness. He was 54 years old.

Mr. Clark was born in North East, Pa., and was reared in the oil and gas fields of that state. During summer vacations he assisted his father, a well-known operator in Pennsylvania and an early developer of the Nowata field in Oklahoma. From 1917 until 1930, Mr. Clark was associated with Oklahoma Natural Gas Co. in Tulsa, and in 1930 joined Columbia.

He specialized in natural gas and during his 31 years in the oil and gas business became prominent in the development and perfection of methods for the measurement of gas.

### Awarded Scholarship at Johns Hopkins



James Hayden

THE American Gas Association scholarship at The Johns Hopkins University has been awarded to James Grant Hayden, Jr., a graduate student in the Department of Gas Engineering. This scholarship is one of two maintained by the income from the Trustees Gas

Educational Fund. The second scholarship is maintained at Purdue University.

James Hayden was born July 11, 1912 at Westernport, Maryland, and received his grammar school and high school education there. After junior college training at Marion Institute, Marion, Alabama, he entered Johns Hopkins University where he received the Bachelor of Engineering degree in 1935. From the Fall of 1935 to the present he has been doing graduate work in gas engineering.

### Utility Executive Heads Chamber of Commerce

THOMAS W. WILSON, president, Delaware Power & Light Company, was for the third time elected president of the Chamber of Commerce of Wilmington at the Chamber's organization meeting held on January 29. Mr. Wilson has completed two successful years as president of the Chamber.



Meeting of committee to make plans for the Southwestern Gas Measurement Short Course which will be held April 20-22 at the University of Oklahoma. Standing left to right: Max Watson, L. G. Rheinberger, Earl Knighlinder, Kate A. Niblack, G. B. Lane, J. H. Satterwhite, G. W. McCullough, A. E. Higgins. Front row: W. H. Carson, W. R. McLaughlin, E. E. Stovall, Gilbert Estill, F. C. Walters.

## A. G. A. Personnel Committee Holds Successful Conference



Committee on Personnel Practices, luncheon guests of Conrad N. Lauer, president of The Philadelphia Gas Works Company. Reading from the foreground, around the table: J. B. Douglas, Henry Flanagan, H. D. Lebman, J. L. Conover, T. S. Lever, K. R. Boyes, Blackwell Newhall, A. M. Boyd, H. H. Hessler, J. O. Hopwood, C. G. Simpson, Ervin Calhoun, R. S. Child, H. B. Andersen, O. E. Wasser, P. T. Dasbiell, M. L. Viteles, C. N. Lauer, F. W. Fisher, E. A. Nicol, R. D. Roley, W. G. Murfit.

DEPARTING from its usual type of meeting the American Gas Association's Committee on Personnel Practices on February 26, held an all-day conference in the offices of The Philadelphia Gas Works Company under the chairmanship of Eric A. Nicol, personnel manager of that company.

Under the able leadership of Dr. Morris S. Viteles, an outstanding authority on the subject, the conference discussed "Training" from the general policy standpoint, during the morning session. Those present were the guests of Conrad N. Lauer, president of The Philadelphia Gas Works Company and vice-president of

the American Gas Association, at a delightful luncheon. Mr. Lauer spoke in a reminiscent vein to substantiate his thorough appreciation of industrial relations activities. Dr. Viteles summarized in an interesting manner the discussion of the morning.

In the afternoon the subject of "Salary and Wage Plans" was discussed under the guidance of J. O. Hopwood of The Philadelphia Electric Company and author of the book "Salaries, Wages and Labor Relations" published by The Ronald Press Company. The conference proved to be extremely interesting and informative as all present had experience on which to base contributions to the discussion.

The Committee on Personnel Practices is one of the Association's youngest committees and hopes to provide the industry with information that may make possible higher standards of performance in the operation of the gas business.

### O. S. Hagerman New Head of Atlantic Seaboard

OLIVER S. HAGERMAN, for many years chief engineer of the American Light & Traction Company, has resigned to become president and director of Atlantic Seaboard Corporation, affiliated with Columbia Gas and Electric Corporation. Mr. Hagerman was formerly Chairman of the Technical Section of the American Gas Association and has served on many of the most important Committees. His new position brings about his return from Chicago to New York where the General Offices of the American Light and Traction Company were formerly located.



## Natural Gas Department

George E. Welker, Chairman

A. E. Higgins, Secretary

Robert W. Hendee, Vice-Chairman

# Natural Gas Convention in May Expected To Set All-Time Attendance Record

**M**ANY timely and interesting subjects are on the program for the Natural Gas Department's annual convention to be held in Kansas City, May 10 to 14. The complete convention program has just been announced by A. E. Higgins, secretary of the department. From every standpoint this year's natural gas convention promises to be the most interesting and the largest in point of attendance, ever held.

By far more hotel reservations have been made in advance than for any Natural Gas Convention in history. However, with many large hotels in Kansas City's downtown hotel district, all within a short distance from the municipal auditorium where the exhibition and meetings are to be held, there will be plenty of rooms available for all visitors.

### Entertainment Program

An exceptional entertainment program has been planned. Ladies who attend the convention have been given particular consideration and an entertainment program has been planned to make their visit to the convention an enjoyable one. Mrs. Benjamin C. Adams, wife of the general manager of The Gas Service Company in Kansas City, is chairman of the ladies entertainment program.

On Tuesday an interesting sight-seeing trip of Kansas City, ending with a visit to the William Rockhill Nelson Gallery of Art where the ladies will see one of the finest art collections in the world, has been planned. Tea will be served the ladies at the art gallery. On Wednesday afternoon a bridge-luncheon to be held at the Kansas City Country Club, which has the reputation of being one of the finest in the country, is on the program.

A big night will be provided for the men at a stag smoker and athletic show to be held Tuesday evening, beginning at 9:00 P.M. at the Ararat Temple. Golden glove boxing champions will appear at this show along with other star entertainment. Refreshments will be served at the end of the show.

The annual banquet, entertainment and dance will take place on Wednesday night and will be held in the main arena of Kansas City's new auditorium. Tables for the banquet will be arranged in night club fashion around a dance floor in the center of the room with the huge stage for the orchestra and entertainment to be held in one end of the arena. The orches-

By CHARLES D. GREASON\*

The Gas Service Company,  
Kansas City, Mo.

tra will play during the dinner and couples can dance between courses. Following the meal a high-class stage show composed of "all name" acts will be held. Arrangements have been made for one of the finest and fastest stage shows ever held at any previous convention. Following the stage show the orchestra will play for dancing until 1:00 A.M.



Courtesy A. G. A. E. M.

Paul C. Ford of the Kansas City Gas Company is chairman of the entertainment committee.

Captain Higgins, in Kansas City on March 16, announced completion of the convention program.

All of the general sessions will be held during the five mornings from Monday to Friday inclusive, and all of them will be held in the beautiful music hall of the new auditorium.

The general sessions will open on Monday morning, May 10. This program will include the opening remarks by George E. Welker, chairman of the Natural Gas Department; Invocation by Dr. Burris A. Jenkins, pastor of the Community Church of Kansas City; Address of Welcome to the natural gas men by the Hon. Bryce B. Smith, mayor of Kansas City; an address by Herman Russell, president of the American Gas Association, and an address by Alexander W. Forward, managing director of the American Gas Association.

One of the outstanding addresses of the convention is scheduled for the first morn-

ing, to be given by Dr. John W. Finch, director, United States Bureau of Mines, Washington, D. C. Mr. Finch will discuss "Economic Trends in the Consumption of Natural Gas." Following Dr. Finch's talk W. C. Grant, director of public relations of the Lone Star Gas Company, Dallas, Texas, will pay tribute to members of the industry who have passed away since the last convention. Following Mr. Grant's memorial address Mr. Welker will announce the appointment of the committee on final resolutions.

### Research Reports

The Tuesday morning program will be devoted to the reports by the Main Technical and Research Committee and subcommittees and will be in charge of H. C. Cooper of the Hope Natural Gas Company, Pittsburgh, Pa., chairman of the committee. Following the report of the Main Technical and Research Committee by Mr. Cooper will come reports of subcommittees, the report of the gas measurement subcommittee by T. R. Weymouth, Columbia Gas and Electric Company, New York; report of the pipe line subcommittee by Harry D. Hancock, Cities Service Company, New York, and the report of gas well deliveries subcommittee by N. C. McGowen, United Gas Service Corporation, Shreveport, La.

Many important papers are on the program for the general session Wednesday morning, May 12. First will come the report of the supply men's fund committee by Mr. Welker, chairman of this committee. The second address will be on "Removal of Hydrate Formations by Use of Anhydrous Ammonia" by J. T. Russell of the Panhandle Eastern Pipe Line Company, Liberal, Kans. W. M. Deaton of the United States Bureau of Mines of Amarillo, Texas, will discuss Mr. Russell's paper.

Following Mr. Deaton's discussion T. J. Strickler, general manager of the Kansas City Gas Company and chairman of the Committee to conduct National Advertising, will discuss "Future plans for the national advertising program."

An interesting address on "Geophysics" will follow on the program, to be presented by Dr. K. C. Heald of the Gulf Oil Company of Pittsburgh, Pa. Mr. Heald's paper will be discussed by Dr. B. B. Weatherby of the Geophysical Company of America, Tulsa, Okla. The last address on the Wednesday morning

\* Chairman, Publicity Committee.

session will be given by Professor C. M. Young of the University of Kansas, who will tell the natural gas men about the "Natural Gas Extension Courses" being offered by the university.

Six papers and discussions are on the program for the general session Thursday morning, May 13. First will come the report of the Wrinkle committee to be presented by John H. Schalek of the Peoples Natural Gas Company, Pittsburgh, Pa., chairman of the committee.

"Maintaining High Efficiency in Pipe Lines" will be the subject of the second address to be presented by J. C. Reinbold of the Panhandle Eastern Pipe Line Company of Kansas City, Mo. J. L. Foster of the Lone Star Gas Company, Dallas, Texas, and J. W. Ferguson, Colorado Interstate Gas Company of Colorado Springs, Colo., will discuss Mr. Reinbold's paper.

F. M. Banks, Southern California Gas Company, Los Angeles, Calif., will make the fourth address on the Thursday morning program on the important subject "Sales Objectives—Domestic and Industrial." E. L. Rawlins, United Gas Public Service Company, Houston, Texas, will follow Mr. Banks on the program and discuss "Latest Developments in Well Control and Operation for Preservation of Reserves." Mr. Rawlins' paper will be discussed by J. H. Dunn of the Lone Star Gas Company, Dallas, Texas.

#### *Barbara Jenkins To Appear*

One of the most interesting programs ever presented at a general session has been arranged for Friday morning. On this program will appear 6-year-old Barbara Jenkins of Denver, Colo., who has made an exceptional reputation in various parts of the country in giving a very interesting and enjoyable cooking demonstration. Barbara will put on one of her typical demonstrations, giving the natural gas men at the convention an opportunity to see this 6-year-old girl in action.

Following Barbara's demonstration the well known Mystery Chef will appear on the program, discussing the gas industry as an "outsider" sees it. The Mystery Chef's appearance on the natural gas program will be one of the high points of the convention.

Adjournment of the convention will follow the Mystery Chef's appearance on the program.

No afternoon sessions are scheduled for Tuesday. Tuesday afternoon has been left open by the program committee for the purpose of giving all of the visiting gas men plenty of opportunity to view the exceptional exhibit that will be held in the exhibition hall of the auditorium by the Association of Gas Appliance and Equipment Manufacturers.

The first of the sectional programs will be held Wednesday afternoon with a meeting of the Natural Gas Production Committee in Room 401 in the auditorium and the Natural Gas Utilization and Sales Promotion Committee which will meet in the little theatre of the audi-

torium. B. M. Nowery will be chairman of the Natural Gas Production Committee meeting. This program includes an address by W. W. Scott of the Humble Oil Company, on "Drilling Equipment Improvements and Changes."

An address by Samuel W. Meals of the Carnegie Natural Gas Company, Pittsburgh, Pa., on "Increasing the Flow from Small Producing Gas Wells," and an address by L. A. Farmer of the Oklahoma Natural Gas Company of Tulsa, on "Prolongation of the Life of Wells" will follow on this program.

Two meetings of the Natural Gas Utilization and Sales Promotion Committee will be held, the first on Wednesday afternoon and the second on Thursday afternoon. Both meetings will be presided over by F. M. Banks.

The Wednesday afternoon program will include an address on "Development in Commercial and Domestic Air Conditioning" by L. A. Bickel of the Dallas Gas Company, Dallas, Texas; a discussion of Mr. Bickel's paper by Carl Dean of the Oklahoma Natural Gas Company, Tulsa, Okla.; an address on "Employee Selling" by S. B. Severson of the Republic Light, Heat and Power Company of Buffalo, N. Y.; discussion of this paper

by Frank Rainey of the Ohio Fuel Gas Company, Columbus, Ohio, and Jerry Ames, Western United Gas Company, Aurora, Ill., and an address, "Value of Aggressive Sales Programs" by M. W. Arthur, Consumers Power Company, Pontiac, Mich.

The second meeting of the Natural Gas Utilization and Sales Promotion Committee on Thursday will include the following addresses and discussions: An address on "Gas Refrigeration Sales Activities," speaker to be announced later; a discussion of this paper by C. B. Wilson, Arkansas Louisiana Gas Company, Little Rock, Ark.; an address "New Designs and Developments in Domestic Appliances" by Lyle C. Harvey of the Bryant Heater Company of Cleveland, Ohio; an address on "Water Heaters" by L. M. Taylor of the Mississippi Power and Light Company, Jackson, Miss., and an address on "House Heating" by Frank L. Adams of the Public Service Company of Colorado, Denver.

#### *Transmission Topics*

The Natural Gas Transmission Committee will hold a meeting Thursday afternoon, May 13, in Room 401 in the auditorium. The entire program of the Natural Gas Transmission Committee will be devoted to talks and discussions on "Recent Developments in Gas Compression Machinery."

First on the program will be Harry Norton of the S. R. Dresser Manufacturing Company of Bradford, Pa. Following Mr. Norton will be a discussion by H. N. Mallon of the S. R. Dresser Company of Bradford. Others who will appear on this program, discussing the same subject, will be S. C. Preston, Peoples Natural Gas Company, Pittsburgh, Pa., B. C. Comfort of the Mississippi River Fuel Company, St. Louis, Mo.; John Avery, assistant manager of the Allis Chalmers Company of Milwaukee, Wis.; George T. Koch of the Panhandle Eastern Pipe Line Company of Kansas City, Mo., and H. J. Carson of the Northern Natural Gas Company of Omaha, Nebr.

Another address on this program will be given by F. T. Hudgins, general sales manager of the Cooper-Bessemer Engineering Company, Mt. Vernon, Ohio; by W. L. Russell, manager, gas and oil power sales division, Worthington Pump and Machinery Company, Harrison, N. J., and a representative to be announced later from Clark Brothers of Olean, N. Y.

The Industrial Gas Conference Committee will hold its meeting Thursday afternoon in Room 501 of the auditorium. Frank Trembly will be chairman of this meeting. Included on this program is an address by F. B. Jones, Equitable Gas Company, Pittsburgh, Pa., on "Specialized Selling of Natural Gas." Mr. Jones' paper will be discussed by D. W. Chapman, Peoples Gas Light and Coke Company, Chicago; by Louis Hungate, Memphis Power and Light Company, Memphis, Tenn., and by A. T. Code, East Ohio Gas Company, Cleveland.

An interesting program for the ladies who attend the Natural Gas Convention in Kansas City on May 10 to 14, has been arranged by the ladies convention committee. Mrs. Benjamin C. Adams, wife of the general manager of The Gas Service Company in Kansas City, is chairman of the committee. Other members of Mrs. Adams' committee are:

Mrs. Herman Russell, Rochester, N. Y.  
Mrs. L. B. Denning, Dallas, Texas.  
Mrs. George E. Welker, Oil City, Pa.  
Mrs. Robert W. Hendee, Colorado Springs, Colo.  
Mrs. A. E. Higgins, Dallas, Texas.  
Mrs. Burt R. Bay, Kansas City, Mo.  
Mrs. G. J. Neuner, Kansas City, Mo.  
Mrs. J. F. Curry, Kansas City, Mo.  
Mrs. Robert D. Garver, Kansas City, Mo.  
Mrs. Harry Warner, Kansas City, Mo.  
Mrs. T. J. Strickler, Kansas City, Mo.  
Mrs. C. H. Waring, Kansas City, Mo.  
Mrs. H. C. Porter, Kansas City, Mo.  
Mrs. F. M. Rosenkrans, Kansas City, Mo.  
Mrs. Jack Torbert, Kansas City, Kans.  
Mrs. Ray T. Ratliff, Kansas City, Mo.  
Mrs. Chas. D. Greason, Kansas City, Mo.  
Mrs. Paul C. Ford, Kansas City, Mo.  
Mrs. L. L. Garner, Independence, Mo.  
Mrs. T. P. Hennessy, Kansas City, Mo.  
Mrs. J. N. Porter, Merriam, Kansas.



*A view of the Music Hall of Kansas City's new municipal auditorium where the general sessions of the Natural Gas Convention will be held from May 10 to 14. This view, taken from the massive stage of the hall, shows some of the nearly 3,000 seats on the main floor, the loge and balcony. Like all other units of the auditorium the Music Hall is completely air cooled and air conditioned*

Another interesting paper will be presented by C. L. Brockschmidt of the Mississippi River Fuel Corporation, St. Louis, Mo., who will talk on "Natural Gas in Heavy Heating Industries." Karl Emmerling, East Ohio Gas Company, Cleveland; T. E. Wood of the Manufacturers Light and Heat Company, Pittsburgh, Pa.; W. W. German, Montana Power Company, Butte, Mont.; A. F. Mitchell, Northern Indiana Public Service Company, Hammond, Ind., and R. P. Kramer, Atlanta Gas Light Company, Atlanta, Ga., will discuss Mr. Brockschmidt's paper.

On the same program will be an address and discussions on "Gas Engine Selection and Application of 5Kw or Above." The address will be presented by E. J. Hatzenbuehler of the Lone Star Gas Company, Dallas, Texas, and discussed by the following: Edwin Snook, Amarillo Gas Company, Amarillo, Texas; Dwight Edwards, Oklahoma Natural Gas Company, Tulsa, Okla., E. E. McCormick, Peoples Natural Gas Company, Pittsburgh, Pa., and W. C. MacIntyre, Arkansas Louisiana Gas Company, Shreveport, La.

"Increased Efficiency of Gas Power Boilers" will be the subject of another address to be presented by Louis H. Hungate, Memphis Power and Light Company, Memphis, Tenn. Mr. Hungate's paper will be discussed by Worden Pope, Public Service Company of Colorado, Denver; L. S. Reagan, Webster Engineering Company, Tulsa, Okla., and Charles M.

Rogers, New Orleans Public Service Inc., New Orleans, La.

The final address on the industrial committee program will be presented by L. A. Bickel of the Dallas Gas Company, Dallas, Texas, on the subject "Developments in Commercial and Industrial Air Conditioning."

## Henry A. Carpenter Dies

**HENRY ALBERT CARPENTER**, for many years prominent in the gas industry as an engineer and executive, died suddenly March 6 in Calcutta, India.

Mr. Carpenter was graduated from the Sheffield Scientific School of Yale, with a Mechanical Engineering degree, in 1891. He entered the employ of R. D. Wood and Co. of Camden, N. J. as a draughtsman on gas holders and later as erection engineer in charge of the construction of gas holders. In 1895 he became associated with the Riter-Conley Manufacturing Co. of Pittsburgh as gas engineer and established a gas engineering department covering the construction of gas holders and gas works throughout the country.

In 1907, Mr. Carpenter was elected president of this company and in 1909 was made vice-president in charge of operations, which position he held until 1916 when the firm was sold to the McClintic Marshall Corp., and later to the Bethlehem Steel Company.

Mr. Carpenter retired from active business in 1916. He was a member of the American Gas Association, the American

Society of Mechanical Engineers and the Yale Club of New York City.

He is survived by a brother, Harold Carpenter, engineer of the Consolidated Edison Company of New York, and a nephew, Charles W. Carpenter of Scarsdale, N. Y.

## Providence Gas Company Reports Gains

**I**N its ninetieth annual report to stockholders, the Providence Gas Company, Providence, R. I., records an increase in total meters in use from 77,276 to 78,735 and an increase in sendout of gas for the year of 2.7 per cent. The dollar volume of all appliance sales in 1936, according to the report, showed a 23 per cent increase over that of 1935 which set a new high record. Total sales of ranges and refrigerators showed an increase of 21 per cent over 1935 and the number of central house heating installations was also increased 21 per cent.

In the national contest for the sale of gas refrigerators, Providence was awarded first prize in its class and also was first-prize winner in the nationwide gas range sales contest.

The annual report comments favorably on the A. G. A. national advertising program and the Mystery Chef program, to both of which it subscribes. Since the beginning of the Mystery Chef program, nearly 18,000 people have personally called at the company's office to secure copies of the cook book, "Be an Artist at the Gas Range."

Pointing to the alarming rise in taxes, the company reports that since 1921 taxes have increased 45 per cent, while the average gas selling price has decreased approximately 30 per cent. Taxes today, it is stated, take about fifteen cents out of every dollar received for gas, amounting to close to \$6 a year for every customer.

Frederick C. Freeman is president of the Providence Company.

## Personnel Changes

**RALPH H. FRY**, division manager of the Citizens Gas Company, has announced the following personnel changes:

Howard C. Snider has been appointed manager of the Pottsville Gas Co., Pottsville, Pa. He formerly was chief clerk in the office of the Roanoke Gas Light Company, Roanoke, Va. D. R. Goodin, former manager at Pottsville, has been transferred to Durham, N. C.

H. K. Dotter has been appointed manager of the Bangor Gas Company, Bangor, Pa., having been transferred to that company from the Jersey Shore Gas Co., Jersey Shore, Pa., and W. H. Rorabaugh, formerly distribution superintendent at Jersey Shore, Pa., has been named manager of that company.



## Affiliated Association Activities

### Mid-West Gas Association



Floyd Parsons

the President's Message at the opening morning session.

Alexander Forward, managing director of the American Gas Association and Edna Van Horn, assistant editor, *Better Homes and Gardens*, will be the remaining speakers at the first session.

The afternoon meeting will open with a report of the A. G. A. manufacturers' representative, F. L. Banner, Minneapolis-Honeywell Regulator Company. "Advertising Gas Cookery" by C. A. Nash, Davenport, Ia., and "Comparative Selling" by E. C. Sorby, Rockford, Ill., are two important topics on the program. H. C. Holder, Council Bluffs, Iowa, will discuss "Uniform Classification of Customers' Complaints" and the first day's meetings will conclude with a discussion of the changes occurring in a distribution system as a result of changes in characteristics of the gas supplied, by C. D. Robison, Omaha.

#### Mystery Chef on Program

A personal appearance of the Mystery Chef will be the highlight of the Tuesday morning meeting. The Mystery Chef will broadcast over the NBC network directly from the convention platform.

Domestic and commercial refrigeration will be presented by R. L. Robertson, Minneapolis, and Mr. Conkey, sales manager of Servel, Inc., Omaha, Nebr., respectively. The development of automatic gas engine power units, which has aroused widespread interest, will be described by C. G. Callow, Waukesha, Wis. This session also includes the report of the A. G. A. technical representative, Lester J. Eck, Minneapolis.

Floyd W. Parsons, editorial director, *Gas Age-Record* and *Natural Gas*, is expected to make one of the most interesting contributions to the meeting. He will speak on "Coming Developments." Other speakers at this session will be: F. C. Armbruster, Chicago, on "Gas Load Building with Water Heating"; J. H. Fagan, Milwaukee, on "Water Heating by Conversion-Type Heaters," and A. H. Abbott, Minneapolis, A. G. A. Industrial representative.

The annual banquet will be held Wednesday evening at "The Tavern on the Green."

The program for the final session, Wednesday morning, includes the following: "Chimney Problems and What To Do about Them," J. E. Swenson, Minneapolis; Report of A. G. A. accounting representative, E. H. Vieregg, Grand Island, Nebr.; "The Gas Industry's Place in Air Conditioning," Lyle C. Harvey, Cleveland; "House Heating Sales," F. L. Kline, Des Moines; and "Service to House Heating Equipment" by P. K. Tucker, Sioux Falls, South Dakota.

### Missouri Association of Public Utilities



C. E. Michel

of April 23. The membership of the Association includes virtually all privately owned electric, gas and water companies in Missouri.

Governor Harold G. Hoffman, Trenton, New Jersey; and C. W. Kellogg, New York City, president of the Edison Electric Institute, will make speeches at the convention.

Among the other speakers will be: Robert W. Hendee, Colorado Springs, Colo., vice-chairman, A. G. A. Natural Gas Department; Grover C. Neff, Madison, Wis.; Dr. Harry F. Parker, Jefferson City, Mo., State Health Commissioner; H. C. Blackwell, Cincinnati, Ohio; Conrad H. Mann, Kansas City, Mo.; S. B. Williams, New York City, Managing Editor, *Electrical World*; D. L. Fennell, Kansas City.

Subjects to be covered include: "The Gas Industry Looks Ahead"; "A Theme Song for Next Year"; "Electrifying Rural America"; "Water Purification in Times of Floods or Drouth"; "Accident Prevention"; "How Utilities Can Share to the Fullest Extent in the Current Business Upturn"; "Maintaining Utility Service under Flood Conditions"; and "The Utilities' Place in Community Life."

A safety meeting and round table discussion of accident prevention will be

held on April 21 under the auspices of the Accident Prevention Committee, of which John J. Barada, Laclede Gas Light Co., St. Louis, Mo., is chairman.

The annual open forum for the discussion of timely subjects from the floor will take place on the evening of April 22. E. D. V. Dickey, president of the Citizens Gas Co., Hannibal, Mo., will be chairman of the open forum. The two principal subjects to be discussed will be "Fitting the Employee to the Job" and "Company Practices in Maintaining Customer-Owned Appliances."

The annual statewide speaking contest for employees of gas, electric and water member companies will be held on the evening of April 21. There will be separate contests for men and for women. The subjects will be: For men—"Service, Today's Greatest Opportunity"; for women—"Creating Satisfied Customers." Cash prizes will be awarded. Eight companies will have contestants.

An entertainment program, which will include a dance, sandwich spread, contests and games for ladies, golf tournament, etc., is being arranged by the Entertainment Committee, of which Hermann Spoehrer, Union Electric Light & Power Co., St. Louis, Mo., is chairman.

### Pennsylvania Gas Association

THE annual convention of the Pennsylvania Gas Association, which will be held at the Lodge of the Sky Top Club, on May 4-6, will open Tuesday evening, May 4, with a dinner at which the speaker of the evening will be Edward G. Boyer, Philadelphia Electric Company, and past president of the State association. His topic will be "Gas Industry Meeting Changing Conditions."

The Wednesday morning session, May 5, will be divided between papers and discussions on Distribution and New Business subjects. Prominent representatives of the industry will participate and H. B. Andersen, The Philadelphia Gas Works Company, chairman of the Distribution Committee, and H. S. Christman, The Philadelphia Gas Works Company, chairman of the New Business Committee, while not ready to announce speakers and subjects, promise well worth while sessions. At the evening session the speaker will be De Loss Walker, associate editor of *Liberty Magazine*.

The morning session on Thursday, May 6, will be devoted to Accounting and Customers' Relations problems. E. N. Keller, Philadelphia Electric Company, chairman of the Accounting Committee,

announces the following list of speakers and their subjects: J. A. Schultz, Consumers Gas Company, Reading, "Customer Good Will at a Saving"; W. F. R. Munnich, Philadelphia Electric Company, "The Use of Machine Equipment in Small Companies"; M. H. Estes, Philadelphia Electric Company, "Simplicity and Economy in Turn On and Turn Off Procedures"; Blackwell Newhall, The Philadelphia Gas Works Company, "Management's Customer Relations Job"; Dr. M. S. Viteles, Philadelphia Electric Company, "Better Customer Relations through Better Industrial Relations"; E. A. Nicol, The Philadelphia Gas Works Company, "Management's Industrial Relations Job."

A large attendance is expected. With

business sessions morning and evening, the afternoons will be devoted to golf. M. N. Bailey, chairman of the Entertainment Committee, has planned some excellent entertainment for the two evening sessions following the dinner.

## Indiana Gas Association

**H**ERMAN RUSSELL, president of the American Gas Association, will be one of the principal speakers at the annual convention of the Indiana Gas Association which will take place in Muncie, Indiana, April 28-29. Mr. Russell's topic will be "Economics of the Domestic Load

and Consumer Research." Floyd Parsons, editorial director of Gas Age-Record and Natural Gas, will speak at the banquet the evening of April 29.

L. C. Heavner, president of the association, will address the meeting at the opening session, which will also include the report of the secretary-treasurer, P. A. McLeod.

The program this year has been arranged to include two symposiums.

The first symposium will revolve around the question "Have We in Indiana Kept Pace?" with C. V. Sorenson acting as chairman. Speakers include: J. Sackman, Hammond; E. Peabody, Muncie; W. Smiley, Indianapolis; E. Weston, Terre Haute and E. Lundgren, Indianapolis. The second will discuss the subject "Rehabilitating Flooded Gas Properties." R. V. McGuire, Newcastle; F. A. Schaefer, New Albany and a representative from the Southern Indiana Gas & Electric Company, will be the speakers.

Other program topics are: "My Conception of Home Service" by Dorothy Shank, Cleveland; "Unaccounted-for Gas" by J. M. Pickford, Hammond; "Employee Education" by Professor Bray, Purdue University, Lafayette; and "The Effect of Recent Legislation on the Accounting Department" by J. A. Kennedy, Hammond.

The convention will also include a report of the Purdue Gas School and reports of the following committees: Technical, Industrial Gas, Commercial, Accounting, and Advertising.

## Convention Calendar

### APRIL

- 12-14 **A. G. A. Distribution Conference**  
Wardman Park Hotel, Washington, D. C.
- 12-14 **Mid-West Gas Association**  
Hotel Russell-Lamson, Waterloo, Iowa.
- 12-15 **American Chemical Society**  
University of North Carolina, Chapel Hill, N. C.
- 21-23 **Missouri Association of Public Utilities**  
Elms Hotel, Excelsior Springs, Mo.
- 26-29 **U. S. Chamber of Commerce**  
Washington, D. C.
- 28-29 **Indiana Gas Association**  
Hotel Roberts, Muncie, Ind.

### MAY

- 4-5-6 **Pennsylvania Gas Association**  
Lodge of the Sky Top Club, Sky Top, Pa.
- 10-14 **National Fire Protection Association**  
Congress Hotel, Chicago, Ill.
- 10-15 **Natural Gas Department, A. G. A.—Annual Convention and A. G. A. E. M. Exhibition**  
Municipal Auditorium, Kansas City, Mo.
- 24-26 **A. G. A. Production and Chemical Conference**  
Hotel New Yorker, New York, N. Y.
- 24-27 **National Association of Purchasing Agents**  
William Penn Hotel, Pittsburgh, Pa.
- 28-29 **A. G. A. Executive Conference**  
Palmer House, Chicago, Ill.

### JUNE

- 1-3 **American Petroleum Institute**  
Broadmoor Hotel, Colorado Springs, Colo.
- 1-4 **Edison Electric Institute**  
Chicago, Ill.
- 7-9 **National Office Management Association**  
Chicago, Ill.
- 8-9 **A. G. A. National Conference on Industrial Gas Sales**  
Palmer House, Chicago, Ill.
- 10-11 **Canadian Gas Association**  
Chateau Laurier Hotel, Ottawa, Canada
- 11-16 **International Gas Union**  
Paris, France
- 14-20 **Second World Petroleum Congress**  
Paris, France

- 21-24 **American Home Economics Association**  
Kansas City, Mo.
- 21-25 **American Institute of Electrical Engineers**  
Milwaukee, Wis.
- 24-26 **American Society of Heating and Ventilating Engineers**  
New Ocean House, Swampscott, Mass.
- June 28-July 2 **American Society for Testing Materials**  
Waldorf Astoria Hotel, New York, N. Y.

### JULY

- 1-3 **Michigan Gas Association**  
Grand Hotel, Mackinac Island, Mich.

### AUGUST

- Aug. 31-Sept. 3 **American Institute of Electrical Engineers**  
Spokane, Wash.
- Aug. 31-Sept. 3 **National Association of Railroad and Utilities Commissioners**  
Salt Lake City, Utah

### SEPTEMBER

- 6-10 **American Chemical Society**  
Rochester, N. Y.
- Wk. 20 **American Transit Association**  
White Sulphur Springs, W. Va.
- Wk. 27 **AMERICAN GAS ASSOCIATION**  
Cleveland, Ohio

### OCTOBER

- 11-15 **National Safety Council**  
Kansas City, Mo.
- 18-21 **American Society for Metals**  
Atlantic City, N. J.

### NOVEMBER

- 9-12 **American Petroleum Institute**  
Stevens Hotel, Chicago, Ill.

## C. L. C. Goes Back to Work

**T**HE Committee on Luncheon Conferences of the Accounting Section has gone back to work. Stuart Barrett, Harold Wahlbeck, Herbert Ehrmann, George Harris, Roy Keller, Lee Mayo, George Trexler, and George Webber, members of the C. L. C., hope that even more than the 269 persons who sat down at last year's conferences will sit down at the conferences being planned for the convention this year.

There are many who believe that one of the high spots of the Accounting Section's annual gathering is the luncheon conferences. The same general plans that have made these conferences so successful in the past will be continued this year. There will be five meetings, dealing with Customer Relations, Customer Accounting, Collections, General Accounting, and Office Management. Subjects close to the heart of the gas business will be discussed by persons who are thinking about these problems most of the time.

Suggestions for subjects to be discussed will be welcomed by the committee. Send a letter with your ideas to the chairman, George Webber, 80 Park Place, Newark, N. J.

More information will be released from month to month. Meanwhile, it is not too soon to plan now to sit down at the Luncheon Conferences this fall.

## Commercial Section

F. M. Banks, Chairman

J. W. West, Jr., Secretary

Hugh Cuthrell, Vice-Chairman

# Prospects in Gas Refrigerator Sales



Hall M. Henry

THE air cooled refrigerator is a reality—in ten short years the wonder and amazement of the world—ice from heat—takes its place among the really worthwhile contributions to our modern way of living. Ten years of selling *silence*, ten years ahead of the times.

Yes, ten years ahead for do we not find the mechanical refrigerator manufacturers constantly striving to achieve that "*silence*" of perfection which is inherent in the Gas Refrigerator. Listen to this, from one of their latest broadsides, "Silent running qualities got special attention in the development of this refrigerator. They worked at it until they were satisfied of quieter operation"—notice that quieter—not *silence*.

Yes indeed, the gas industry has many a reason for celebrating its tenth anniversary of Gas Refrigeration.

### What Gas Refrigeration Means to Industry

Where would we be today in this picture of kitchen modernization without gas refrigeration—where indeed—*out!* Where would we be in our battle to meet the electric cooking threat—where in this talk of modernity—where in this battle for increased gross revenue—where in this fight for our very existence as an industry? Did not the gas refrigerator add new life and zest to an otherwise dull existence? Then do we not have good and sufficient reasons for a real birthday celebration?

Then too Mr. John Q. Public has something to celebrate. But I wonder if he realizes it. What do you think brought about this struggle for quieter operation of mechanical refrigeration—nothing so much as the *silence* of gas refrigeration. It was and is today the standard of comparison for silent operation.

Don't you think that Mr. John Q. Public should join our celebration over this bringing of silent refrigeration? And don't you think for a minute that he doesn't consider *silence* when purchasing a mechanical refrigerator. Look at these reasons given by women as the greatest influence in refrigeration sales. They preferred:

\* Chairman, Refrigeration Committee. Address before Mid-West Regional Gas Sales Conference, Chicago, February 18-20.

### By HALL M. HENRY\*

Utility Management Corp.,  
New York, N. Y.

- (1) Space
- (2) Convenience
- (3) Making frozen desserts
- (4) Ease of cleaning
- (5) Appearance
- (6) Noiselessness (Silence)

Certainly the gas refrigerator matches mechanical refrigerators in the first five



Jed Prouty, who plays the part of father in "Big Business," a Jones Family serial produced by Twentieth Century-Fox, explains to Spring Byington and George Ernest that the gas refrigerator is permanently silent

preferences—and for the sixth—*noiselessness*—we give them *silence*. Let's see that our customers recognize the real contribution our industry has made to refrigeration perfection—"Silent refrigeration without moving parts." If we do this, then our customers will gladly join with us in celebrating "Gas Refrigeration's Tenth Birthday," and do so with purchases.

### The Market

There will be sold in 1937 some 2,300,000 mechanical refrigerators adding some \$40,000,000 of annual revenue to the gas and electric industries. Approximately 80% of this will be paid for mechanical refrigeration service where gas is available. Hence \$32,000,000 of annual refrigeration revenue or \$2.00 per year per gas customer is the refrigeration revenue market. How is this market divided?

### Old Homes

Some 60% of the gas customers do not now have mechanical refrigeration. So here is the largest potential market.

### New Home Building Market

New home construction has been increasing rapidly since 1934—having increased from 40,000 in that year to 200,000 in 1936 and the 1937 estimate is for 400,000. Here is a ready made market since studies show practically 100% are equipped with mechanical refrigerators.

### New Families

The marriage mill is again functioning with the result that marriages have increased from a low of 900,000 to an actual 1,100,000 in 1936 and it is estimated—1,300,000 take the marriage vows in 1937. Another ready made outlet for refrigeration.

### Replacement Market

What is of even greater interest to us in the gas industry is that it is estimated some 15% of these refrigerators or approximately 300,000 will replace old worn out obsolete electric refrigerators—last year the replacement units averaged about 10% of the total or 200,000 units—in 1935—140,000—in 1934—110,000—in 1933—40,000. What a glorious opportunity for the gas industry—here for the first time we find a vulnerable spot through which we can hit back at our competition. This replacement market (if dominated by gas) provides the gas industry with an opportunity to give the customer a visible demonstration of the superiority of gas. Here is our God-given chance to place competition in as unfavorable a light through replacing old style, noisy mechanical refrigeration with modern, quiet gas refrigerators—as has our competition placed the gas industry where they have replaced old, antiquated gas ranges with modern competitive ranges. Hence, the 1937 refrigeration market of \$32,000,000 of annual refrigeration revenue while offering in itself a grand prize in the form of increased gas revenues, gives us this added opportunity to prove to our customers that it's not a change of fuel they want but a change of the equipment in which that fuel is used.

### How to Capture the Market

My recommendation is for you to first decide on how much of this \$32,000,000 or \$2.00 per year per customer that will be spent for mechanical refrigeration service in 1937—that you want. The objective is the starting point. Then the second step



is the *furnishing of the needed sales tools to secure that objective*. As to the *objective*—we might easily set it as the entire mechanical refrigeration market—and spend plenty—without selling the full market—hence our *objective* must be tempered by judgment. As a clue to what our *objective* should be let's see what others are doing:

#### Medium Size Company

1,000 to 7,000 meters

#### Company A

5,800 meters—*Manufactured Gas*

1934 2% of customers sold gas refrigerators  
1935 7.2% of customers sold gas refrigerators  
1936 8.2% of customers sold gas refrigerators

#### Company B

6,700 meters

1936 9% of customers sold gas refrigerators

#### Company C

5,000 meters

1936 10% of customers sold gas refrigerators

#### Company D

4,000 meters

1936 10% of customers sold gas refrigerators

#### Company E

1,000 meters

1936 15% of customers sold gas refrigerators  
Saturation 30%

#### Moderate Size Company

30,000 to 100,000 meters

#### Company A

70,000 meters

1936 3½% of customers sold gas refrigerators

Company B 40,000 meters

1936 4% of customers sold gas refrigerators

Company C 34,000 meters

1936 3% of customers sold gas refrigerators

Company D 31,000 meters

1936 3½% of customers sold gas refrigerators

Here we find one company selling gas refrigerators to 15% of their customers in one year, and with a goodly number selling from 8 to 10%—and others 3 to 4%—what special conditions made these results possible—or what special sales tools were used—are questions that may well enter your minds. However, these results were not so much due to any special local factors—as they were to a determination to do a real refrigeration job. In other words to achieve a real objective. Therefore the *objective* is your starting point—The above companies have shown that real gas refrigeration sales results can be realized—Choose from these an *objective* worthy of your company and the gas industry you represent. Then supply the needed sales tools.

#### What Tools Do We Need to Reach Our Objective?

##### 1st—More Salesmen

The first and foremost sales tool is salesman—power. We need to stop asking our

sales departments to perform miracles but see that they have the necessary sales tools to do the kind of selling job that needs to be done. How long will it be until we wake-up to the fact that we in the gas industry have not *out sold* our competitors because we have not placed sufficient salesman-power in the field. There is no real mystery to the so-called phenomenal results of our competitors. But there is a real lesson to be learned from a study of their success. It can be summed up in sales effort. A larger number of salesmen—and a larger number of dealers—and more advertising. Is salesman power the answer? Consider the following:

(1) Companies selling gas refrigerators to from 6% to 10% of their customers have 1 salesman to every 600 to 1,200 meters (salesmen also sell other appliances than gas refrigerators).

(2) One single dealer of oil burning burners and boilers in a city over 1,000,000—is employing one salesman per 1,250 homes, yet there were only 10% as many oil burners and oil boilers sold in 1936 as mechanical refrigerators.

(3) In another large metropolitan area there are 20 electric refrigerator salesmen to 1 gas, yet the ratio of electric refrigerator sales to gas was only 5 to 1. I leave it to you to figure what would happen to the sales ratio if the gas refrigerator sales force were enlarged.

(4) In a town of 7,000 people having 1,800 homes, there were found nine dealers handling mechanical refrigerators, and one (The Gas Company) handling gas. The ownership of electric to gas refrigerators is twelve to one—dealers nine to one. Is not this significant? If there were only more refrigerator dealers, would we not find the gas refrigerator sales somewhat better than the foregoing ratio?

(5) One salesman (on the average) can sell about so many units, general average 100 per year. If the electric company in your gas area has 20 salesmen to your one (and I believe in many instances they have more than this), then they will secure more than their share of the 1937 sales volume.

(6) The slogan of one of the leading mechanical manufacturers for 1937 is "Contact Early and Often"—another—"The Early Salesman Secures the Order."

There is a saying—"If I hadn't done it Monday, somebody else would have done it Tuesday." If we do not get our gas refrigerator sales today, some competitor will tomorrow.

#### Not Necessary to Match Competition— 100 %

I do not wish to leave the impression that we have to match our competition—salesman for salesman—or ad for ad—dealer for dealer—but I do want to point out that salesman power ratio of 20 to 1 in favor of our competitors is bringing about a result in refrigeration sales of 5 to 1 in their favor,—and that if we wish this to be 2 to 1 or 1 to 1 we must put forth greater sales efforts. I consider the key to our entire industry problem rests on the recognition by our executives of the prin-

## Sales Conferences Prove Outstanding Success

Characterized by vigorous talks by outstanding sales advertising executives, the Southern-Southwestern Regional Gas Sales Conference, sponsored jointly by the Commercial Section and the Southern Gas Association, brought to a successful conclusion March 12, the series of three regional gas sales conferences conducted by the American Gas Association. The conferences are designed to formulate a well-organized sales front, and present new ideas and inspiration to the gas sales departments.

The Eastern natural gas conference which met in Pittsburgh, Pa., February 4-5, under the chairmanship of Frank T. Rainey, Ohio Fuel Gas Company, was attended by 150 delegates mostly from the Appalachian area. More than 450 registered at the Mid-West conference, held in Chicago, February 18-20, under the direction of J. Frank Jones, chairman of the Mid-West Regional Gas Sales Council. This was the largest conference ever held by the Commercial Section.

The Southern-Southwestern Conference, March 10-12, in Memphis, Tenn., attracted a registration of more than 300. H. E. Meade, presi-

dent of the Southern Gas Association, and William E. Leverette, Nashville Gas and Heating Company, presided at alternate sessions of this joint meeting.

Delegates attending the conferences were enthusiastic about the type of program, which included many unusual features. A highlight of the Mid-West meeting was the appearance of Barbara Jenkins, the six-year-old child cooking marvel. Special emphasis at all the conferences was placed on the national advertising program and the need for effective tie-in with that campaign. Two papers on this subject have been published in the A. G. A. "Monthly," one by B. J. Mullaney, The Peoples Gas Light and Coke Company, in the March issue and the other by W. G. Wiegel, Lone Star Gas System, in this issue. A number of other important conference papers have been reproduced in the March and April issues, and others will appear in May.

A popular program at each of the conferences was presented under the sponsorship of the Home Service Committee. These included skits, including radio dialogue, round-table discussions and short talks on home service topics.

ciple—that our competition is not making inroads because of a superior product but because they *out-sell* us.

I do not mean that their salesmen sell more per man than ours—quite the contrary—but that they have many times more salesman power. The *phenomenal results* of our competitors are occurring where they have one salesman to every 300 meters. Similarly the truly successful sales results of gas companies are due to their having 1 domestic salesman to every 600 to 1,000 domestic meters. (I refer you to a study which was presented before the New England Gas Association February 14, 1936 entitled "Getting Our Share of the Business.") Here will be found ample proof of the above and of the following statement made in this February 1936 talk:

"The industry that succeeds in supplying the fuel needs of the future will be that industry which *out-sells* its competitor and not because one has a corner on all of the advantages."

When do you begin to *out-sell* your competitors?—Anytime you provide adequate salesman power.

#### 2d Needed Sales Tools—More Dealers

Another very important sales tool which our industry needs is more dealers selling gas refrigeration. This can only be realized if we sell them on the advantages of pushing gas refrigeration—and make it profitable for them in the bargain. Why not see that at least one more dealer is added in your company's territory to push the sales of gas refrigeration in 1937, and see that the "New Appliance Merchandising" magazine keeps them informed and stimulated.

#### 3d Sales Tool—Use of Selective Selling New Market: (Old Homes)

With some 40% of our customers now owning mechanical refrigerators it becomes increasingly important to know who of our customers do not now have mechanical refrigerators. This calls for a domestic market study and if properly made will tell you—not only those customers who have no mechanical refrigeration but the ones who have ice and are therefore the preferred prospects for gas refrigeration. This type of survey allows for selective selling—eliminating wasted calls of your salesmen—provides for effective direct mail programs—and should produce the best results at a minimum of expense. For details on a type of market survey which provides this information at a reasonable cost and in a most usable form—we refer you to a paper of Don Lintons before New England Gas Association, February 12, 1936, or to any property of the Associated Gas & Electric System nearest to you.

#### New Market: (New Homes)

This new refrigeration market includes all new home buildings as well as old homes—are you securing your share of the New Home Market—a market which has such a vital influence on your entire gas market? Do you know how many of

the 200,000 homes built in 1936 were erected on your gas mains? Do you know what went into these homes? How many of your gas appliance services were used? Such a study has just been completed by all of our gas and electric companies—result—many of them are assigning a special salesman to follow this new construction market. Here is one other way to match sales efforts with your competitors, for they are already busy on this ready-made-to-order market—so in your supply of sales tools give some earnest thought to this new home market. Find out what is going on, then act accordingly.

#### Replacement Market

To reach the replacement market with a minimum of expense—a survey of existing refrigerator owners to determine those now ready for replacement would seem to be the most logical step. To arrive at this replacement group—an age determination would seem to be the answer—unless direct questioning reveals the customers state of mind regarding the replacement factor. If the age is to be the determining factor as to replacements then customers having refrigerators over 5 years old should be contacted. Not all of those over 5 years old are ready for replacement but it is thought that these offer the best field for replacement effort. The appeal will be for quiet operation—low maintenance—lower operating cost—since these older mechanical refrigerators use considerably more electricity than do present day models, some as much as 50% more.

Hence a most valuable sales tool is the domestic market survey and is greatly needed by your sales department.

#### Trade-in Policy

The question of trade-ins on these old mechanical refrigerators should receive consideration as our competitors have in some instances already adopted a trade-in policy. One offers \$7.50 plus 10% of the purchase price of the refrigerator. The formula seems to be a good one—since the higher the purchase price of a refrigerator the larger the trade-in allowance.

#### 4th—Active Participation in the National Anniversary Campaign

The national sales contest produces a mass psychology which is essential if we are to properly and adequately cope with present day competition. This thought was best expressed by T. K. Quin, president of Maxon, Inc., in talking to electric utility executives when he said—

"In over all campaign advertising, I should recommend that you associate yourselves with national campaigns. I believe I suggested to you a year ago, and I repeat again now what seems to me to be a common fault of the industry—it is to forget that while we live locally in this country, we think nationally and it is impossible for any company to entirely separate itself and its destiny from what is happening in some other part of the country."

The full significance of this statement

means that we should support national sales campaigns—and that the entire gas industry—straight gas and combination gas companies should take active part in this contest. Hence see that your local company registers early—that your dealers tie in—that your salesmen are fully informed regarding the contest and its many prizes—that the home service department participates—and that each and every employee is acquainted with the contest and the company's objectives.

## Gas Company Opens New Hollywood Building



**M**ODERNITY is the mood of the new Hollywood district office of the Los Angeles Gas and Electric Corporation, officially opened on Saturday, February 13 by Addison B. Day, president and general manager. It was the architect's drawing of the front elevation of this building that inspired Columbia Studio artists in the design of the American Gas Association gas company office building on Columbia's typical American business street set.

Los Angeles Gas and Electric's new district office building, erected at a cost of \$150,000, will furnish complete gas service facilities for the 50,000 gas customers in Hollywood proper. It is the fifth such district office to be constructed in the Los Angeles gas company's system, the others being in Pasadena, Alhambra, Huntington Park and Inglewood.

Noteworthy is the amount of space devoted to appliance display and customer educational facilities. Expansive front display windows afford opportunity for an effective showing of modern appliances in a smartly modern setting; a spacious public lobby on the main floor provides additional room for attractive groupings of gas appliances; and a full sized basement is given over almost entirely to display rooms, a model kitchen and a large auditorium for home service demonstrations.

## Industrial Gas Section

Ralph L. Manier, Chairman

Eugene D. Milener, Secretary

Hale A. Clark, Vice-Chairman

# Accelerated Load Building Prospects Discussed at National Commercial Sales Conference

**E**NTHUSIASTIC over the rising tide of commercial sales, industrial gas men look to the aggressive modernization of obsolete installations and the development of untouched markets to further promote the sales of gas and gas appliances in this field. These were the dominant notes at the National Commercial and Hotel & Restaurant Sales Conference held under the auspices of the Industrial Gas Section in cooperation with the Pennsylvania Gas Association, March 2 and 3, at the Benjamin Franklin Hotel, Philadelphia. An attendance of more than 200 men, prominent in the gas industry, both manufactured and natural, was drawn from 15 states to the conference which was acclaimed one of the best sales meetings ever held.

A most interesting display of some 20 counter cooking appliances was featured. This occupied a room adjacent to the conference room and included everything from a new percolating type of coffee urn to complete short order devices.

### Commercial Load Possibilities

Presiding at the Tuesday morning session was Ralph L. Manier, chairman of the Industrial Gas Section, who gave the delegates a warm and cordial greeting. Welcoming the delegates on behalf of the Pennsylvania Gas Association, H. N. Squier, president, stated that they were most happy to meet jointly with the Industrial Gas Section. He went on to say that the symposium on commercial sales was to signalize progress made in the sale of commercial gas. "The gas industry," he stated "stands today with the greatest commercial load in history, and, through the enthusiastic incentive given it by the symposium we can see ahead a substantial increase in this load and a most successful future in this field."

"The promotion of gas for commercial purposes, long the step-child of the utility sales department, has at last come into its own," H. S. Christman, vice-president of the Pennsylvania Gas Association, declared. "Although gas sales and revenue from commercial uses in most manufactured gas areas stand second only to the domestic uses," he said, "it takes conferences among gas men from all over the country, with various experiences, to reveal and bring out the great possibilities for still further increases in this and other loads." He went on to say: "The appli-

cance manufacturers have made great strides during the past five years. In developing insulated, heat controlled, heavy duty equipment, gas appliances for counter use have not only been improved in design but also in appearance so as to blend with the finest counter appurtenances. I know of no better way to really get to the meat of this important branch of our business than by such meetings as this."



R. L. Manier



H. N. Squier

The first paper ever to be given on heat controls before an American Gas Association meeting was delivered by H. T. Ryan, of the Robertshaw Thermostat Company, Youngwood, Pa., entitled "Modern Controls for Commercial Gas Appliances." This able and interesting paper carried a message of great importance for all commercial gas salesmen, for the accurate and automatic temperature control that gas makes possible is a big sales point in many commercial applications.

A point of unusual interest brought out in Mr. Ryan's talk was that the installation of a thermostat on a coffee urn not only reduces the consumption of gas but also of cream and coffee and further improves the taste of the coffee itself. In explaining this he said, "The flavor of coffee remains the same when it is held at a uniform temperature. On the other hand, if the coffee becomes overheated, it will become bitter. Then if it is permitted to cool and is reheated, the acidity will increase. This requires a frequent change of the coffee in the urn. The facts concerning the use of cream are not so well known. In most restaurants a predetermined amount of cream is supplied to the customer with each cup of coffee. If the coffee is too hot, the customer, who is usually so much in tune with the

American tempo, that the delay of several minutes required for the coffee to cool is excruciatingly painful to him, will not wait for the coffee to cool but will request more cream. By having the coffee at the proper temperature, the number of requests for more cream is greatly diminished."

C. George Segeler, A. G. A. engineer, discussed "How Commercial Sales Are Made—Four Case Histories." "Eighty-five different classes of commercial gas appliances," said Mr. Segeler, "have been listed by the Association in a recent service letter sent to all gas company and individual Industrial Gas Section members. But gas companies are not yet deriving the greatest benefit from gas sales through these outlets. Active cooperation with the manufacturers of these appliances will extend and fortify our position. We have the weapons to meet competition and it is up to us to help the manufacturers in equipment design, advertising and display, servicing, credit, utilization, and sales efforts.

"Every day uncovers new markets," he continued, "such as the sterilizers for glassware, the no-tank water heater for grocery and butcher shops who generally only have cold water on tap." Mr. Segeler also sounded a word of caution to sales managers, urging that gas ought to be sold because it is better, not because it is cheaper. "Too many of our salesmen," he asserted, "are more adept at selling their customer on the idea that gas is not expensive than they are in selling the thought that gas is the best fuel for the work and that it possesses advantages over other equipment."

### Service Symposium

A symposium "Modernizing Gas Service and Increasing the Cooking Load" was led by Frank H. Trembly, Jr., of The Philadelphia Gas Works Co., Philadelphia, Pa. He warned that "The progress in modernization which has been made in the field of heavy duty gas kitchen appliances must be extended to the remaining appliances. This will include the development of specialized steam tables, preferably without the water bath, and with several separate sections, each controlled at a different temperature for different foods. Our counter cooking appliances are for the most part insufficient, cumbersome in ap-





Some of the delegates who attended the National Commercial and Hotel and Restaurant Sales Conference held in Philadelphia, March 2 and 3. At the speakers' table from left to right are: F. J. Coughlin, Proctor & Gamble Company; R. L. Manier, chairman, Industrial Gas Section, and H. N. Squier, president, Pennsylvania Gas Association.

pearance and inadequate for the service intended. The gas industry must modernize these appliances if it is to retain the counter cooking load. There are many men attending this symposium who took a leading part in sponsoring this important modernizing program. The gas industry is indebted to them and all others who had a share in this work.

#### Modernization Program

Active and enthusiastic discussion followed, out of which came many valuable ideas. L. B. Crossman, of the Boston Consolidated Gas Co., Boston, Mass., optimistically pointed out, "This year, with more money available from many sources, modernization will be a general procedure in practically every major business operation. It is estimated that the hotel industry alone will spend for modernization during the year 1937, nearly one hundred and thirty-six millions of dollars. We in the gas industry should play an important part in this particular modernization program. We have a definite contribution to offer and a definite objective to gain—I urge you to plan well and carry through with determination to a successful conclusion."

P. M. Alden, of the Philadelphia Electric Co., Philadelphia, Pa., gave details of several commercial kitchen modernization jobs that saved the customers from 15 per cent to 25 per cent of the gas bill and made the point that such jobs were the entering wedges for sales of other commercial gas equipment.

Stressing the fact that almost everyone and everything seems to be "going modern" today, T. J. Gallagher, The Peoples Gas Light & Coke Co., Chicago, Ill., went on to say that "to fittingly take its proper place in this national movement, the gas industry has come forward with a specialized body of representative kitchen engineers—men whose years of

study and practical experiences in the gas and engineering fields of endeavor qualify them in a truly representative role to a group that is one of the most extensive segments of our national economic life, namely, the hotels and restaurants."

Actual comparative tests on the premises between gas and other fuels, and trial installations, have both been found effective means of selling kitchen equipment to the eating house owner, according to W. J. Hill, of the Detroit-Michigan Stove Company, Detroit, Michigan. Mr. Hill cited a number of examples where modern gas equipment had displaced coal, electric and obsolete gas units with fuel savings running between 25 per cent and 33 per cent. The famous Hackney's restaurant in Atlantic City replaced oil-fired ranges with gas fry top ranges, with a subsequent cut of 25 per cent, not only in the fuel bill but also in the labor bill.

C. H. French, Standard Gas Equipment Corp. of New York, spoke on improvements made in recent years, and mentioned particularly the new ceramic broiler, new range construction, and the latest developments in deep fat fryers and bake ovens. Figures cited by Mr. French showed that six manufacturers shipped 9,741 heavy duty gas ranges last year as contrasted with shipments of only 7,890 the year previous and forecast that 1937 would be a still bigger year than 1936. He pointed out that modern equipment is available and the user is in the mood to buy—so that it is up to the men in the field to put it on the lines. J. F. Quinn, The Brooklyn Union Gas Co., Brooklyn, N. Y., thought that counter cooking appliances should be improved so that they would more favorably compare in standard to the heavy duty equipment now on the market. That was his comment, he said, after making installations in 3,000 food preparation establishments in his territory.

C. E. Lucke, Jr., Consolidated Edison Co. of New York, stressed the need for additional revenue to offset the decreased fuel consumption of the modern equipment now being sold. He suggested better sales technique, salesmanship and showmanship in developing loads that are still potential in our commercial establishments. J. P. Leinroth, Public Service Electric & Gas Corp., Newark, N. J., stated that the depression was in the past, the defensive attitude of the utilities has been supplanted by the offensive and it is up to the men to show a little more aggressiveness in load building.

#### Commercial Refrigerator Described

After a most enjoyable luncheon and talk-fest among old friends and new acquaintances the afternoon session convened with Joseph F. Quinn, chairman of the General Commercial Committee of the Industrial Gas Section, presiding. The first paper was "A Description of the New Commercial Gas Refrigerator" by Dr. William R. Hainsworth, vice-president, Servel, Inc., New York City. Interesting slides were shown with this paper. The almost insurmountable difficulties encountered in developing this unit were brought out as well as how they were finally mastered. This unit, which has been designed to hook up to a refrigerator, is of particular value to the gas industry as a means for increasing the summer load. A gas air conditioning unit will be developed eventually from the refrigerating unit. The success of such an air conditioner can be visualized from the fact that home air conditioners of the compressor type today use 5 h.p. motors which are eliminated in the gas model. One of the features of the new commercial gas refrigerator is its small size, for a 500 lb. unit will pass through ordinary doorways which allows installation without dismantling.

That Servel looks to the gas utilities for the distribution of this refrigeration unit was brought out in a paper "Servel Electrolux Commercial Gas Refrigeration—Policy and Plans for Merchandising," by C. J. Conkey, sales manager, Commercial Servel Electrolux Sales Division, Servel, Inc., Evansville, Ind., "A six months' summer load of 8 to 10,000 cu.ft., 1,000 B.t.u. gas per installation and about one-half this consumption through the balance of the year is of real value to any gas utility, and this is a new market," he said. Many were heard to say that there is little doubt but that this is a great contribution to the gas industry. While the new unit is available to gas utilities for use in their own buildings or for test purposes, sales to the public will shortly be arranged but only at a few selected points.

Enthusiastically received at this point was Alexander Forward, managing director of the American Gas Association. Complimenting those who got up the program, he also spoke of his admiration for the men who went out and sold commercial gas equipment—calling each sale a separate and new achievement. "The eyes of the gas industry are on you commercial men," he concluded.

#### Water Heating Symposium

The symposium, "Selling Commercial Water Heating, Experiences from the Firing Line," was then opened, led by L. E. Biemiller, chairman of the Volume Water Heating Committee. Mr. Biemiller's paper brought out in an interesting manner the different commercial uses for hot water; various classifications of establishments using hot water heaters; volume of hot water usually required in each type of establishment, etc. He strongly urged that a gas fired immersion storage tank, hot water heater of 150 gallons or more, should be developed for the commercial customers, and cited many advantages of such a unit. Laundries and breweries were mentioned as excellent prospects that should be sought by the alert commercial salesman.

During the following discussion E. A. Lawler, Public Service Electric & Gas Co., Jersey City, N. J., pointed out that apartment houses constituted a large potential market for volume water heating. While coal and oil now serve this field in a large degree, the high efficiency of gas equipment today put gas in a favorable position to compete with these fuels. Incinerators for burning refuse in these same apartments offer another field for gas.

Selling commercial water heaters with a minimum gas consumption guarantee is the practice of the Scranton-Spring Brook Water Service Company, Scranton, Pa., according to M. A. Boylan who stated that they had taken 50 jobs in the past five years running from a few gallons up to 500 gallons. L. Oursuff, Washington Gas Light Co., Washington, D. C., spoke favorably on a specially designed immersion type of water heater which is being tried out in his territory.

C. George Segeler, stated that more extended use could be profitably made of the water heater tests conducted by Prof. Wilkes of the Massachusetts Institute of Technology. This report lists comparative data on 15 types of water heater (oil, coal, and gas), and is available from the American Gas Association. While efficient large volume water heaters and down to 60 gallons were available, he pointed out that units of 40 and 50 gallons were sorely needed.

T. J. Gallagher, The Peoples Gas Light & Coke Co., Chicago, Ill., remarked that probably the most valuable publication for commercial men seeking the hot water load was the American Gas Association's "Water Heating Manual." That little was to be expected in the way of new types of commercial water heaters, was the burden of the remarks of C. E. Bartlett, of the Ruud Manufacturing Co., Philadelphia, Pa. He pointed out, however, that if each job were analyzed and carefully engineered, equipment now available would be adequate.

#### Space Heating

Delegates assembled early Wednesday morning for an enthusiastic symposium on Space Heating. Presiding was C. E. Lucke, Jr., chairman of the Commercial Cooking and Baking Committee. He first introduced Harold Massey, American Gas Products Corp., New York City, whose paper "This Will Be a Gas Water Heater Year," was well received. Mr. Massey drew attention to the value of the national advertising program on commercial water heating conducted by the American Gas Association. He mentioned the nationally conducted Golden Faucet Contest of the leading manufacturers and dealers, and the national contest among home service women sponsored by the American Gas Association.

"These aids," he declared, "together with the general modernization program under way, better business, etc., would surely make 1937 a big year for commercial water heating." Lively discussion ensued which brought out the fact that under a new method being tried out in Philadelphia, 1,400 water heaters were put out last year on a rental basis.

The next paper "Selling Gas Appliances for Brewing the National Beverage," read by Robert Arnold, of the Silex Co., Hartford, Conn., described the advantages of coffee making with small glass brewers, a method that is being widely accepted in all classes of restaurants and hotels.

Vigorous optimism characterized the symposium—Selling Commercial Space Heating, Experiences from the Firing Line—led by H. P. Morehouse, Public Service Electric & Gas Co., Newark, N. J. To present graphically the position held by commercial space heating, he said that the volume of this type of heating amounted to 20 per cent of all space heating. Mr. Morehouse then introduced G. W. Schock, The Philadelphia Gas Works Co., Philadelphia, Pa., who told the assembled delegates that there were 20,000

## GOING AHEAD

### WITH INDUSTRIAL GAS

The next time you order a "sizzling steak" and your mouth waters as it's brought in, remember it's gas heat that makes it sizzle.

Has the ancient and honorable steam table seen its best day? New gas-heated dry or "steamless" steam tables are making their appearance. Among others, one from the Pacific Coast and one from down yonder in Australia look promising.

Says Henry Hein:—

"Eight of the last 15 radiant tube installations in enameling furnaces have replaced electricity. We are fast getting back the load that was lost in this field." Shows what research and development can do.

The attractiveness of some of the fancy new gas coffee urns is not confined to looks. Many of the new models brew coffee by entirely new methods; and it tastes better, too.

Baltimore industries have increased their use of Industrial Gas 76 per cent in the last three years. This also tops 1929 by 8.6 per cent. The fact that this represents an unusually diversified list of industries is worth noting.

#### Cause and Effect

W. J. Cameron, of Ford Motor Company, says that the selling price of good automobiles has been brought down to 20¢ a pound. We can add that selling prices of cars have gone down almost in direct proportion as the use of industrial gas in fabricating them has gone up.

The volume of Industrial Gas which will be sold this year will be greater than the bulk of any other commodity except possibly the public water supply. In fact, if Great Salt Lake were drained it could be refilled one and one half times with this year's output of Industrial Gas.

When sit-down strikers decided to quit sitting, Industrial Gas was right on the job, waiting for them. Furnaces, ovens, and forges did not take long to heat up when Industrial Gas was turned on.

Gas bake ovens with 1,000 lb. hourly capacity now take up only one fifth the space they formerly did.

Attachment of small blowers to industrial gas furnaces is making great headway. Another step in making Industrial Gas easier to use.

gas steam radiators in his territory. This business was largely acquired through a rental plan inaugurated five years ago.

This type of space heater Mr. Schock declared, is particularly good because of the long life, low maintenance and small reconditioning cost, if taken in and re-rented. He also said he favored floor furnaces and the suspended type for stores, restaurants, and offices. Many contributed to the discussion which followed and much valuable information was given as to the selection of type of space heater for specific purposes.

#### Venting Discussed

Venting was a subject of much interest during the discussion, and R. L. Manier, Syracuse Lighting Co., Inc., Syracuse, N. Y., indicated a preference for the circulating type of heater because of heavy condensation with other types. He also stated that his company refused to sell space heaters where vents were unavoidable or impossible to install. Small transit flues, made up on the job, sometimes answered this purpose. Unvented heaters were also barred by the Washington Gas Light Co., according to T. M. Offutt, who stated that insulated copper ducts were used for flues with considerable success. Somebody brought out the fact that ducts or flues, made up on the job, could be easily carried into the basement through the floor and then connected to the chimney. The use of a silica-gel summer air conditioning unit for winter heat was mentioned by Mr. Offutt.

Terry Hart, Nashville Gas & Heating Co., Nashville, Tenn., stated that his company installed unit heaters in the ducts of summer air conditioning systems for winter heating. The heaters were first stripped of motors and fans as the blower of the central system was more than sufficient. F. L. Firor, Public Service Electric & Gas Co., Orange, N. J., discussed the economies of unit space heaters in isolated parts of large factories and buildings only the main parts of which were served by central heating systems. Proper venting of gas heaters has been found to be a successful weapon in combating oil competition according to L. E. Biemiller of the Consolidated Gas, Electric Light & Power Co., Baltimore, Md.

Advertising as an aid in selling commercial appliances was stressed by Emil Hofsoos, of Ketchum, McLeod & Grove, Pittsburgh, Pa. The number of prospects in the big cities, he stated, is too large for the gas company salesmen to contact and therefore advertising must be used to reach them.

One of the most inspiring talks was delivered at the Loadbuilders' Luncheon by Elmer Wheeler, of Tested Selling, Inc., New York City. His address "It's All in How You Say It—Magic Words that Make People Buy," was instructive and interesting to executives and salesmen alike. His organization has coined, tested, and copyrighted more than 100,000 selling phrases that are fast "bringing home the bacon" for those concerns

whose salesmen are using them. "Sell the steak and not the stove, sell the cake and not the oven," was a method of selling he recommended to the gas industry.

The presiding officer of the afternoon session was H. N. Squier, president of the Pennsylvania Gas Association, who

introduced George L. Jones of Servel, Inc., Evansville, Ind. Mr. Jones ably discussed "What's Ahead for Domestic Gas Refrigeration?" The first gas refrigerator was produced just 10 years ago and it wasn't until later that the millionth elec-

(Continued on page 155)

## Industrial and Commercial Window Display Bulletin Announced



J. A. Malone

pause to look have upon the selection of fuel for manufacturing the myriad articles of commerce?

The answer is that people who walk down the street are the people who make up the community. They make up public opinion in the aggregate and they influence to varying degrees the circle of friends and business acquaintances wherein they move.

Some of the largest gas companies in the country have found, over a period of years, that it pays by means of window displays to inform these people of what's happening in the field of industrial gas. Based on experience, these companies have made industrial window displays an integral and continuous part of their window display activities. According to John A. Malone, chairman of the Committee on Industrial Window Displays, Industrial Gas Section, such window displays pay because they have this indirect pulling effect, but furthermore they bring in actual prospects for business, sometimes from the most unexpected sources.

Some of the largest manufacturing concerns in the country eagerly cooperate with these gas companies in furnishing material for industrial window displays. Many local firms seek the opportunity to cooperate. These manufacturers are convinced that such efforts pay, says Mr. Malone.

The Industrial Gas Section has just published for the first time a comprehensive, well illustrated Industrial and Commercial Gas Window Display Bulletin. Gas company executives will do well to study this bulletin and analyze their local situations to see whether or not they too can put to work this effective help for promoting the sale of industrial and commercial gas, and, at the same time, increase the acceptance, by domestic customers, of gas as the

ON first thought, one would not look to window displays as an effective means of promoting the use of industrial and commercial gas. What does the average passerby know, or care, about the intricacies of factory and mill production? What possible influence can those who might



modern fuel. The dramatic presentation possible with Industrial subject matter, and the prestige value of nationally known Industrial companies using gas in these processes, are valuable elements in impressing the domestic user with the fact that gas is *The Modern Fuel*.

### R. L. Manier Advanced

**R**ALPH L. MANIER, industrial heat engineer for the Syracuse Lighting Co., Inc., Syracuse, N. Y., has been appointed to the Central Division staff of the Niagara Hudson Power Co. for coordinating all promotional activities in commercial and industrial heating and air conditioning sales. Mr. Manier is a graduate of Rensselaer Polytechnic Institute and has been in charge of the above mentioned activities for the Syracuse Lighting Co., Inc., since 1920.

Long active in the Industrial Gas Section of the American Gas Association he has occupied the chairmanships of the Survey Committee, the Non-ferrous Metal Treatment Committee and the Large Volume Water Heating Committee. This year he was advanced to chairman of the Industrial Gas Section.

S. W. French of the Syracuse Lighting Co., Inc., succeeds Mr. Manier.



## Technical Section

M. I. Mix, Chairman

H. W. Hartman, Secretary

J. V. Postles, Vice-Chairman

# Conewago Gas Company Changes to Natural Gas

THE Conewago Gas Company serves the Boroughs of Hanover and McSherrystown in York and Adams Counties, Pa., respectively. Hanover is the largest borough in York County, having a population of 11,805, and McSherrystown is a small borough immediately adjacent to Hanover but in Adams County and having a population of 2,005.

The company had 3,078 meters of all classes on the date of conversion, September 9, 1936. A large proportion of these meters were in homes of working people of moderate means. There were but two house heating installations on the system and no heavy industrial installations as there are no heavy industries in the communities; the principal industries being the manufacture of shoes, cordage, furniture, silk and cigars.

There is considerable wealth in Hanover as the owners of the various industries reside there and more than the average number of professional men and retired men of means are also residents.

The principal gas consumers are the new hospital, new hotel, wire cloth and bakery business.

The Conewago Gas Company served the territory with carburetted water gas manufactured in Hanover by a small Lowe water gas plant. The annual send-out amounted to 75,000,000 cubic feet.

Gas is distributed at 6.8 inches water column through a town regulator with the storage holder on the line so arranged that should there be any interruption in the flow of gas in the natural gas pipe line a regulator would open and turn the gas stored in the holder on the town; thus, giving Hanover protected gas service. Arrangements were made for oil fogging and odorizing.

### Experienced Gas Men Used

When it came to building up an organization for conversion of the customers' appliances and in as much as there were but 3,000 customers to convert, it was deemed inexpedient to run a school and teach green men for a job that would last not over two weeks. The company was fortunate in being able to borrow sixty-five experienced gas men from neighboring companies in Pennsylvania and Maryland. While these men were not necessarily experienced in conversion work they were fitters and complaint men of long experience. Each company lending men designated one of them as leader of the group from that company. These men were able to start conversion work after a couple hours intensive training. Each man was supplied with a tool kit with the following equipment:

### By H. SMYSER BAIR

Pennsylvania Gas & Electric Co.,  
York, Pa.

- 1 —10" Rigid Wrench
- 1 —6" Rigid Wrench
- 1 —8" Crescent Wrench
- 1 Large Screw Driver
- 1 Small Screw Driver
- 1 —4" Electrician's Screw driver
- 1 Pair Pliers
- 2 Stove Broaches
- 1 Flashlight (complete)
- 1 Ball Pien Hammer
- 1 Three Corned File
- 1 Handpiece with chuck
- 1 Small Reamer
- 1 Large Reamer
- 1 Industrial Reamer
- 1 Adaptor Anvil
- 1 Adaptor Crimping Tool
- 1 —No. 6-32 Tap
- 1 —17/64 Plug Tap
- 1 Plug Orifice Socker Wrench
- 1 Hacksaw

- 2 Hacksaw Blades
- 1 Binder for Conversion Tickets
- 1 Identification Button
- 1 Lead Pencil
- 1 Box Matches
- 1 Can White Lead

The change over from manufactured gas was begun on September 9 with the introduction of natural gas into the system early that morning. This gas has an average B.t.u. value of 1,100, a specific gravity of 0.65 and is put on the district at 6.8 inches water column.

### Preparation

Before natural gas was turned into the mains, a survey of water heaters was made, showing the location of heaters, whether they were automatic or tank heaters, and whether or not they had flues. Also a list of refrigerator installations had been prepared. This information was placed on the individual record cards which had been printed for each customer. On the day before the new gas was turned on the system, all automatic water heaters were turned down to half flame, and consumers having tank heaters were warned by card not to use them until adjusted.

During the course of experimental work conducted several days before the September 9, it was discovered that manufactured gas would burn satisfactorily in the natural gas burners in refrigerators. Consequently on September 8 all burners on gas refrigerators were changed and given a very sharp air adjustment on a reduced B.t.u. input. This procedure prevented the flues from becoming plugged with carbon as might have been the case if natural gas had been turned into the old burners.

Three or four days were spent previous to the change-over, in setting up more or less common types of ranges and tank heaters and determining experimentally just what orifice sizes would be needed in the various appliances. The conversion was made by means of adaptors where needle valves existed and the needle valve sawed off, and replacement of existing spuds in the remaining cases.

A very careful survey of all commercial and industrial consumers had also been made previous to the conversion. Where new burners, etc., were needed, they had been ordered and were on hand.

### Training

Since all men used on this conversion were regular gas fitters, it was not felt that a great deal of time was necessary for instruction. The men were given their instructions in groups of ten or twenty as they

## Distribution Conference April 12-13-14

Distribution engineers from all parts of the country will gather at the Wardman Park Hotel in Washington, D. C., April 12-14, to participate in the fourteenth annual Distribution Conference of the American Gas Association. A program made up exclusively of distribution subjects has been prepared under the able direction of D. P. Hartson, chairman of the Distribution Committee.

The conference offers the best opportunity for the distribution engineer to keep abreast of the developments in other companies as well as to present problems of his own for discussion. A feature of the conference will be the informal luncheon conferences under the chairmanship of H. L. Gaidry, of New Orleans Public Service Inc., New Orleans, La. An added feature will be the inspection of the research facilities of the Bureau of Standards, whose work is of great importance to distribution men.

For a complete discussion of the program see the A. G. A. MONTHLY for March.

arrived, rather than attempting to instruct the whole group at one time.

The first part of the instruction period was devoted to a discussion of generalities with regard to working hours, conduct of adjuster on consumers' premises, and use of the various printed forms furnished to the adjuster. Then followed a demonstration of the method of adapting cap orifices, procedure to be used in converting appliances, and precautions necessary in making adjustments.

#### *Sequence of Work*

It was felt from the outset that certain large users, who needed gas in the conduct of their business, and special cases, such as the hospital, would have to be taken care of immediately after the introduction of natural gas. Consequently, from the industrial survey, a list was made up of such consumers in order of their necessity, and their appliances were taken care of first. After them came the small hotels and restaurants. These conversions were completed for the most part by September 10, although some details required several days to be worked out to the entire satisfaction of the consumer.

The routine adjustment of domestic appliances got under way by the afternoon of the tenth, and was completed by the nineteenth, with the exception of consumers who were not at home.

Oil burner pilots and space heaters were not adjusted at the time of the regular conversion, but were left to be taken care of by a clean-up squad which remained to take care of complaints as well as these special cases.

#### *Procedure for Domestic Adjustment*

The procedure used on the various domestic appliances will be taken up individually.

#### *Ranges*

All range burners were adapted by driving A. & F. adaptors into the orifice caps after sawing off the needle points, unless the range had been equipped with spud orifices, in which case those spuds were merely replaced. The general drill sizes used in the orifices were No. 55 for top burners, No. 53 for giant burners, and No. 49 for oven burners. In some cases where burners were of an unusual size, these numbers were modified slightly.

Push button lighters of the Rutz type were converted satisfactorily by installing new eight port tips and conversion nipples. Where there was an adjustable nut on the valve, it could be raised to restrict the flow of gas and consequently no conversion nipple was required. The lighter caps had a three-quarter inch hole punched in the top. On flashback pilots an adjustment of flame height was all that was required. Occasionally, in order to get the pilot to work, it was necessary to restrict the flow of gas from the lighter port or drill holes in the bottom of the flashback tube to admit the secondary air.

On ovens it was necessary to remove all obstructions, such as steel wool, from the

## Annual Production and Chemical Conference To Be Held in New York

Under the leadership of R. E. Kruger, chairman of the Gas Production Committee and J. F. Anthes, chairman of the Chemical Committee, the annual joint conference of the Production and Chemical Committees will be held at the Hotel New Yorker, New York, N. Y., May 24-26.

This year's conference promises to be of unusual interest to both engineers and chemists. The Program Committee for the conference, of which C. R. Locke of the Chicago By-Product Coke Company and E. M. Bliss of the Public Service Electric & Gas Company of New Jersey, are co-chairmen, has arranged a program which is timely, interesting and promises to meet the high standard set by former conferences. A prominent gas company executive will address the conference at the first session, May 24. The subjects of prepared papers cover a wide field of production and chemical activities and problems and in most instances are the results of a considerable amount of study and research.

The round-table luncheon conferences which appeared on last year's program were so enthusiastically received that they will again be an important feature of the program. Three luncheon conferences will be offered on Tuesday afternoon, May 25. Each group will be in charge of a chairman, who, because of his experience and knowledge, will be able to guide the conference to a successful conclusion. The sessions will be conducted in an entirely informal manner, thus affording everyone present an opportunity to voice his own ideas and opinions.

The subjects of the papers to be presented at the conference, together with the names of their authors and details of the luncheon conferences will appear in the May issue of the A. G. A. MONTHLY.

flues and in a few cases put additional air holes in the linings. Combination ovens caused some trouble in this respect. Where the customer complained of insufficient heat following adjustment, it was found desirable to remove the burners and drill the ports to a No. 35 drill size.

All burners, both top and oven, were broached to original size and brushed out. The valves were also cleaned with pipe cleaners.

It was necessary to replace all conical burners and flash tubes on the stoves which were sold recently by the company as it was impossible to drill out the port sizes of the burners without cutting the top off, as the flash tubes had to be lengthened and the burner ends chamfered. It was also necessary to replace burner heads and tubes on 162 ranges.

#### *Hot Plates*

Hot plates were converted in the same way that top burners were handled. The conversion of this type of equipment offered no real difficulty, but often took considerable time due to the fact that the parts were rusted together and in many cases had to be drilled in order to get the bolts out.

#### *Tank Water Heaters*

Tank water heaters were converted merely by substituting a new plug orifice with a No. 47 drill for the existing plug. The burner was removed, broached to original size and brushed. Then the plug orifice was removed with a special socket wrench which made it unnecessary to remove the burner throat or disconnect any piping.

#### *Automatic Water Heaters*

Automatic water heaters of the port burner type were converted by adapting the orifice except that in certain cases, particularly those with high B.t.u. inputs, a

satisfactory adjustment giving good air entrainment was made with a needle valve. The pilots were adjusted with the needle valve to give a flame of satisfactory length. Automatics having Barber Jet burners were converted by replacing the existing jets with new ones made for natural gas.

Most lights could be converted by removing the screens and making adjustments with the needle valves. In a few cases where good adjustments could not be obtained, or where the parts were so rusted as to defy adjustment, it was necessary to replace them with new lamps.

#### *Irons*

With flatirons it was necessary to install a No. 16 plug orifice, drill additional secondary air holes in the side of the body of the iron and drill additional holes in the burner itself. With these three changes, satisfactory operation was obtained in every case.

#### *Special Adjustments*

The special adjustments were taken care of in each case by men especially trained in that type of appliance.

#### *Refrigerators*

New burners with orifices to give approximately the correct gas input had been installed previous to the introduction of natural gas. Immediately after the introduction of natural gas, a small group of men set out to return to each job to adjust the input to the requirements of that particular box. They were equipped with meters having a one-tenth foot proving dial. Both maximum and minimum inputs were carefully regulated.

#### *Oil Burner Pilots*

Oil burner pilots were taken care of, for the most part, by reducing the flow of gas

with needle valve adjustments and slotting the ends of the pilot tubes. In some cases one inch nipples or elbows were used as shields. There were a few instances, notably on the Petro and Nokol burners, where draft shields had to be ordered and installed before the conversion was satisfactory.

#### House Heating Equipment

On Bryant furnaces, which were the only furnaces designed for burning gas which were encountered, it was necessary to re-drill the burner ports from a No. 40 to a No. 28. The orifices were changed to allow the proper B.t.u. input and the air openings in the pilots reamed out. The pilots were adjusted to give the proper flame length.

On the conversion burners it was necessary only to change the spuds.

#### Space Heaters

Radiant heaters other than Humphrey Radiantfires were converted by changing the spuds. Luminous flame heaters having no obstruction above the flame were taken care of by installing orifices in the inlet line to restrict the flow of gas. Where there was a baffle directly above the ports, it was

necessary to replace the heater, since this type could not handle enough gas to make them satisfactory without depositing carbon on the baffle.

All Humphrey Radiantfires had to have the burners replaced with natural gas burners.

The cost of the change-over of the customers' appliances covering the first twelve weeks of natural gas operation was \$5.30 per customer. This included all industrial, commercial and domestic appliances.

There were no salesmen in the district during the change-over but as of January 1 this year, there have been 108 central heating plants installed.

Before gas was turned into the system, the company's customers were notified individually through the mails as well as through newspaper advertising as to just what was going to be done and during the conversion one-half page advertisements were placed in the local paper informing the people as to the progress of the conversion.

The conversion was completed without impairing the good public relations enjoyed by the Conewago Company.

foreign investigators. The value of the American work is further recognized by the fact that the fourth edition of the German standard will include information on other taps than their standard corner taps.

## Eddy and Nagler Get New Posts

**A**NNOUNCEMENT has been made by The Peoples Gas Light and Coke Company, Chicago, of the appointment of Phillip E. Eddy as assistant to the vice-president in charge of customers' service and Karl B. Nagler as executive engineer. John J. Novy has been made operating engineer of the company.

Both Mr. Eddy and Mr. Nagler have been active in recent years on committees of the Technical Section. Mr. Eddy was chairman of the Gas Production Committee in 1933 while Mr. Nagler served in the same capacity in 1935.

## Pioneer Gas Holder Designer Dies



Hubert Krekel

**H**UBERT KREKEL, a pioneer in the design of gas holders, died March 12 at his home in Baltimore, Maryland.

Born on October 14, 1865 in Germany, Mr. Krekel received his education there. An uncle who was a close friend of the late T. J. Hayward, advised him to come to America, where he arrived in 1888. He secured a position in the engineering department of The Bartlett Hayward Company of Baltimore. From 1888 to the time of his death his entire time was devoted to the interest of the gas industry in the designing of gas plants, gas plant apparatus and particularly gas holders.

## COMMERCIAL SALES CONFERENCE

(Continued from page 152)

tric refrigerator was sold. In a very short time now, he said, the millionth gas refrigerator will be installed in a customer's home. In almost every city there are as many gas meters as electric meters, as many gas utility employees as electric utility employees, therefore there are as many people interested in gas as are interested in electric refrigerators. Therefore, the reasonable conclusion is that if we put as many man hours in the field, we will sell as many gas refrigerators as there are electric units being sold.

Of great educational value was the

## The Reynolds Number Factor and the German Flow Meter Standard

By LYMAN M. VAN DER PYL

Pittsburgh Equitable Meter Co.

**T**HE Reynolds number factor is one of the novel features of the American Gas Association's Gas Measurement Committee Report No. 2. According to the data of this report, the discharge coefficient of an orifice decreases slowly as the Reynolds number increases. This is in contrast to the standard of the Verein deutscher Ingenieure (German Society of Engineers),<sup>1</sup> in which the discharge coefficient is constant above a certain value of the Reynolds number known as the tolerance limit because of the fact that the tolerance changes at this point.

Of course, German orifice meter work is all done with corner taps, usually consisting of narrow annular slits directly against the upstream and downstream faces of the orifice plates. Taps of this type, at first glance, seem to be nearly ideal, but they have never been used in this country, probably because of a realization of the relatively large effects that result from small faults of construction and installation.<sup>2</sup> However, these taps were included in the Columbus tests of the A. G. A.-A. S. M. E.

Joint Committee, though the data obtained on them was not correlated.

Recent tests at the Hydraulic Laboratory at Milan<sup>3</sup> and incidental tests by Wälzholz,<sup>4</sup> as well as the American corner tap tests of Professor Beitler for the Joint A. G. A.-A. S. M. E. Committee, have shown that the discharge coefficient changes with changing Reynolds number, and further tests on the subject conducted by Ruppel<sup>5</sup> have corroborated the other tests.

Changes resulting from the data of Ruppel's tests will be incorporated in the forthcoming fourth edition of the German discharge meter standard. Briefly, it has been found necessary to halve the thickness of the orifice edge to a maximum of 0.02 of the pipe diameter and to displace the tolerance limit in the direction of higher Reynolds numbers. This means that the Germans are keeping the discharge coefficients constant for a given orifice and are allowing the tolerances to take care of the Reynolds number factor at the higher Reynolds numbers, but are shifting the tolerance limit because of the fact that the increase of the discharge coefficient at low Reynolds numbers was found to begin at higher Reynolds numbers than had been suspected.

While the accuracy of the new American discharge coefficients has been generally recognized in this country, it is indeed gratifying to have them corroborated by

<sup>1</sup> Regeln für die Durchflussmessung mit genormten Düsen und Blenden, DIN 1952, 3rd edition, 1936, VDI-Verlag G.m.b.H., Berlin.

<sup>2</sup> Kretschmer and Wälzholz, Versuche über die Einbaufehler der Normblenden, Forsch. Gebiete Ingenieurw. 5, 25 (1934).

<sup>3</sup> Marchetti, L'Energia Elettra, 13, 169 (1936).

<sup>4</sup> Wälzholz, Die Doppelblende, Forsch. Gebiete Ingenieurw. 7, 191 (1936).

<sup>5</sup> Ruppel, Die Durchflusszahlen von Normblenden und ihre Abhängigkeit von der Kantenlänge, Z. Ver. deut. Ing. 80, 1381 (1936).



subject "The A-B-C of Deep Fat Frying" which was next discussed by F. J. Coughlin of the Proctor and Gamble Co., Ivorydale, Ohio. Interesting charts accompanied the talk. "The possibility of using deep fried goods to replace more expensive items on the menu is appealing to many operators," said Mr. Coughlin. "Increasing the popularity of fried foods further is a matter of education, for it is axiomatic that with improved quality will come increased consumption and the quality will improve as we are able to convince the fryers to use better equipment and better frying fat, along with the proper methods," he continued.

Many commented on the fact that Mr. Coughlin's interesting discussion will suggest to every gas man the wisdom of establishing contacts with various manufacturers of raw materials purchased by the food industries and similar commercial enterprises.

One of the most interesting contributions to the conference was the talk given by Harry Blumberg, of Nathan Straus, Duparquet, Inc., New York, N. Y., one of the nation's leading experts on commercial cooking layouts. Mr. Blumberg, who has designed and engineered some of the most important kitchens in the country, discussed the development of the modern commercial kitchen throughout a period of 30 years. His enlightening discussion of the subject "Planning Commercial Kitchens in the Modern Fashion," traced the influence of the war, post war, prohibition and the post prohibition periods on this development. Showing how high labor and rental together with lost liquor profits during prohibition had forced contraction and concentration of the kitchen to cut the labor crews and rents, he stated that today, the added liquor profits are being used to a large extent to modernize the kitchen as it should be. "This is the commercial gas man's great opportunity," he said.

The meeting was closed by E. E. McCormick, The Peoples Natural Gas Company, Pittsburgh, Pa., who, in summing up said, "You must have been impressed, as I have been, with the great body of evidence that has been presented, as to the importance of the commercial gas field. Certainly no one who has heard these papers and discussions can doubt that it offers fertile ground for active promotion and holds out a promise of rich rewards."

### Commerce Association Elects Murdock

**W**ILLIS J. MURDOCK, manager of the Western United Gas and Electric Company, Joliet, Ill., was recently elected president of the Joliet Association of Commerce for 1937. Mr. Murdock is a past-chairman of the Water Gas Committee and for a number of years has been active in the Technical Section of the American Gas Association.

### YOUR ASSOCIATION

(Continued from page 137)

which may have evolved in the working out of a particular program.

The Association operates today in accordance with a basic principle announced by the first president, George B. Cortelyou, at the first annual convention. This was again set forth in the first five-year program of Association activities, adopted in 1926, and restated and reemphasized upon the adoption of the second five-year program in 1931. It hangs in the Executive Board room at headquarters, and carries this reminder to all who meet there:

"The Association shall not extend its work beyond those objects which are of first importance and greatest practical value to the industry, it being obvious that, if its activities become broadened beyond the scope of practical accomplishments, its influence will inevitably be weakened."

### HOME SERVICE AND THE SALES MANAGER

(Continued from page 135)

about better cooking, now we profit but little by such teachings. Ten years ago we were the only ones doing it and it was an unique service. Today all of our efforts must be directed toward establishing public acceptance of the idea that the best cooking can be obtained only with gas and the modern gas range.

The chemistry of cookery, the perfect dumpling are of trifling importance in the picture. If one of our customers prefers dumplings like an eight pound shot, I want our home service women to be smart enough to teach that customer that you can make even that kind of a dumpling best on the gas range. Of course, she should know how to make the other kind, if that is what the customer wants, but this is not the primary mission of a home service worker in the gas industry today.

To be sure, because of the enthusiasm of some customers, Home Service sometimes feels that it has inroaded itself into the hearts of the women in the community to such an extent that it would be difficult to discontinue or change certain activities. True, there may be inquiries, but if a more progressive program was substituted, I am

confident that no customer would discontinue using gas because the old program was no longer available.

Time and again, Home Service reports are submitted to the management which read like this: "During the year we held one hundred classes with a total attendance of fifteen thousand; our department's field staff made three thousand home calls, etc., etc.; all together there were 'umpty' thousand contacts." And the home service director complacently says to herself, "That ought to impress 'em." And the general manager looks at the home service report, sharpens his pencil and divides the expense by the number of contacts—the answer is \$.0000001 per contact—and he says, "Swell job," Swell job, rats!

### Place Emphasis on Appliance

I would rather have half that much of everything, and twice the expense, if I had the assurance that in each contact we availed ourselves of the opportunity to take a saucepan, place a little water in it, bring the water to a boil, turn the burner down to simmer, wrap a towel around the utensil and let the boiling operation continue for several minutes; then remove the towel and show that it is not burned. What better proof do you want; what better proof can you get that gas cookery is cool cookery? That's what Carl Sorby does. This is but one example of the many things which are available today which can be done effectively to place dramatic emphasis on the appliance.

I have seen Home Service reports which stated, "We tested 2,000 recipes in our experimental kitchen, this year." All I can say is the descriptive exclamation, "So, what!" Perhaps I should not talk about this because it is an operation, the purpose of which, in so far as it relates to an operating gas utility, is something I do not quite grasp.

I once heard a home service director remark "We wouldn't think of publishing a recipe which has not been thoroughly tested in our own kitchens." What is wrong? Don't we trust anybody? Are not the recipes published by responsible food manufacturers, nationally famous cook books and other reliable people and publications dependable? Is there anything wrong,

unethical or illegal about stating on a recipe card "Reprinted by courtesy of the National Livestock and Meat Board" or something like that? Collect and distribute recipes, yes! But test thousands, no!

It is proper, in my opinion, to do a certain amount of cooking in home service departments to familiarize the personnel with the operation and performance of new models and competitive equipment. I can understand that. I can understand why it is desirable to try some recipes which are to be used for demonstration purposes, but the wholesale testing of recipes, no!

And, if it can be proven that this wholesale recipe testing program is essential, then I suggest that consideration be given to the establishing of a central laboratory for that purpose. The industry would be money ahead. Right now, I prefer to take that same amount of money, time and energy and put it into a home service activity which will directly promote gas and the modern gas range.

To make my position clear, I state again that this description does not apply to all home service directors or home service departments. Indeed, I know quite a few home service directors who have more sales sense than some sales managers I know.

#### *Home Service Part of Sales Department*

It is recommended that the home service department be made an integral part of the sales department. There may be a very special case, occasionally, where such treatment is not advisable. In that event, the management should make it a point to exercise sufficient supervision to assure itself that the co-ordination of activities between the home service department and the sales department is continuous and complete.

When this has been done, gentlemen, the responsibility becomes mainly yours. And, if a home service department does not make good, it is then your fault because the right kind of home service has too much to offer to leave any doubt as to its ability to pay its own way.

To protect myself, and in all fairness to everyone concerned, in the properties in which I take an active interest, every important sales meeting

involving the introduction of new appliances, new models, campaigns or policies will be attended by home service personnel, so that, at all times, home service will be informed as to what the sales department is doing and what it is trying to do. This plan may be of some help to you, and I am glad to offer it.

The cooking load is so important to the gas industry that all the energy, all the time and all the thought which home service can give it will be needed to meet the requirements of the day. In that field alone, gentlemen, you as sales managers will have acquired a priceless sales asset the value of whose services will never be questioned.

#### **PUBLIC ACCEPTANCE OF GAS**

(Continued from page 126)

concerning the ranges they were selling.

On Thursday during the week of the cooking demonstration and range show, a second 10-page section devoted to modern gas cooking and gas equipment was published. In this supplement, eleven gas range dealers carried advertisements totaling 7684 agate lines, featuring modern gas ranges. Included in the editorial comment were seven photographs of modern ranges, up-to-date kitchens and related cooking subjects. More than 6900 agate lines of editorial content discussed such subjects as testing operations of the A. G. A. Laboratory, suggestions for modernizing the kitchen, hints for preparing meals, recipes, oven canning, advantages of oven heat control, whole meal oven cookery, and similar subjects of interest to housewives. One interesting feature of this second 10-page gas range section was a cartoon, six columns wide and one-half page deep, depicting the six important steps in the evolution of cooking, starting from the Stone Age and ending with the modern gas range.

All ranges featured by the dealers in their advertising were displayed throughout the cooking demonstration program. An average of more than 2,000 women inspected the new models each day.

Modern cooking demonstrations were given each afternoon using two different dealer's ranges. Each dealer had an opportunity to spotlight his

particular range at least one day during the week.

The national committee has constantly urged you to tie-up and cash in. It's a constructive suggestion, because it will bring you tangible and direct benefits. Hook on to the principles of the national advertising program—it's good business. We can recommend it because we tried it!

#### **DOMESTIC RANGE RESEARCH**

(Continued from page 132)

subject. In approaching this topic, the Committee on Domestic Gas Research felt that one of the important phases of this problem, as it pertained to gas range ovens, was the study of burner design from the standpoint of determining the relationships between minimum by-pass inputs and maximum safe gas rates. This problem, therefore, resolved itself into a study of those fundamentals which might permit obtaining turn-down ratios greater than had been indicated by previous technical investigations. With greater turn-down ratios, lower by-pass rates can be obtained with nominal or starting rates remaining constant with resultant benefit to low oven temperature maintenance.

A practical solution of this problem as it affects low temperature oven performance has been employed, particularly on the Pacific Coast, by automatically turning off one section of a dual burner during maintenance periods, in order that the amount of heat liberated in the oven will be less than would be the case if all ports on the burner were supplying gas during maintenance periods. This development was an admirable one which came at a time when the industry was faced with a serious problem. Other methods of accomplishing the same purpose are available and operate in a similar way; that is, by either automatically or manually closing off the gas supply to a portion of the oven burner.

The difficulty which arises is, naturally, the one involved with burning a minimum rate of gas on a burner. It was discovered during the first part of this research, which included a study of the combustion of gases at maximum rates per square inch of port area, that a family of curves could be drawn up, indicating the extremes of

adjustment which would be of the same general pattern, regardless of burner design or type of gas. These curves all demonstrated that as we increased the gas input rate per square inch of port area, the range of flexibility became less, until a rate was finally reached where the range of adjustability became zero and blowing of flames with natural gas occurred simultaneously with yellow tip flames.

#### *Port Sizes*

It appeared from a study of these data that a rate of 30,000 to 35,000 B.t.u. per square inch could be used for natural gases and still retain a reasonable degree of flexibility, providing ample combustion space is provided to eliminate the possibility of flame impingement. The next step was to discover the factors affecting minimum stable by-pass flames.

It was found that when burners were used having the same port area but provided with different size ports, that the minimum by-pass rate was less when larger ports and, consequently, fewer ports were employed. It is important to note that port sizes must be governed also by other performance considerations such as flash-back, lifting, and aeration.

Passing many of the progression steps of this study, it seems important, however, to mention that it was found that the minimum by-pass rate was dependent solely on the number of ports and that within the range of port sizes practical in oven burner design it was independent of port size. This statement implies that if it is desired to deliver less heat to an oven in order to accomplish lower oven temperatures, all that is necessary to do is to reduce the number of ports. As previously stated, this has been accomplished principally on the Pacific Coast by reducing the number of ports during the operation of an oven by mechanical controls. It is entirely possible, however, to accomplish a similar result by reducing the total number of ports in the burner, provided, of course, that (1) sufficient port area is provided to prevent lifting with natural gases and (2) the size of ports as well as their depth are such as to insure freedom from flash-back on manufactured gases.

As an example of the practical application of these important principles,

it has been found possible to provide a burner with as few as 70 drilled ports, which will accommodate from 18,000 to 20,000 B.t.u. per hour as a nominal rate, and approximately 2,500 B.t.u. as a minimum rate. These lower minimum by-pass rates will, of course, permit obtaining oven temperatures as low as necessary or desired. At the present time, research activities are being continued on burner design and on the fundamentals of oven aeration and venting.

#### *Broiler Sections*

One of the first considerations given broiler sections affected ways and means of developing a method of measuring broiler performance accurately. Rather extensive studies were made to determine the best and most reliable method of temperature measurement in broiler areas. Various arrangements were employed varying from plain thermocouples to thermocouples silver soldered to a small copper disc mounted on an asbestos pad, both disc and pad being given a dull black finish. This latter arrangement proved on the basis of numerous meat broiling tests to be capable of giving reproducible results, as well as absorbing a greater amount of radiant heat than any of the other equipment used.

As in the consideration of ovens, there are two important phases to the broiling cycle; first, the preheating period, and second, the phase wherein the temperature is maintained at equilibrium. Analysis of these two phases indicates that they are affected by such factors as input rate, type of broiler compartment, radiant surfaces, and flame characteristics.

It is interesting to note that with any given style broiler, the equilibrium temperature bears a very definite relationship to the input rate which implies that in order to increase equilibrium broiler temperatures a given percentage without constructional change, it is necessary to increase input rates a relatively higher percentage. For example, with a 50 per cent increase in input rate, the average equilibrium broiler temperature was found to increase in the order of 30 per cent. During preheating periods, the broiler temperature or rate of preheat was found to increase in nearly the same proportion as increases in input rate.

In the matter of flue losses, both from the standpoint of speed and economy, performance was found to be improved as excess air concentrations were reduced. Insulation thickness and density exerted an effect on broiler performance similar to that found for oven sections. With higher insulating values produced by increased thicknesses or densities, heat losses through the walls were reduced with resultant higher equilibrium broiler temperatures at any given input rate. Increased heat capacity, however, resulting from increasing the mass of insulation tended to increase the time of broiler preheating.

The effect of radiant surfaces was determined qualitatively by several tests with radiant screens and refractory radiants. Metallic radiant screens were found to be effective in elevating broiler temperatures, particularly during the first part of the preheating cycle. This result may be explained by the fact that the heat capacity of the screen material was low and, as a consequence, the screen heated quickly to incandescence. Refractory radiants employed during these tests were also effective in elevating broiler temperatures and increasing broiler preheating speeds. The application of such materials to broiling will be found to be interesting, and should result in elevation of temperatures above those commonly experienced in conventional type broilers.

#### *Top Sections*

Investigational work on range top sections has been confined largely to studies to determine the effect of variations in input rate, utensils, and top section constructional features on top burner thermal efficiency and speed. While economy and speed are extremely important considerations, it must be recognized that other performance characteristics such as heat distribution, combustion, flexibility from the standpoint of abnormal conditions, and burner operating characteristics, likewise are important and should, as a consequence, receive as much attention in top section design as the two other essential sections of the range previously discussed. It is intended as this project progresses to study fundamentals of burner design and possibly of other variables affecting those top burner



performance characteristics which have not been treated to date.

A considerable part of our top section work was devoted to the relationships between thermal efficiency or speed, size of utensil, and input rate variations produced by throttling. Under most conditions of utilization, throttling of 9,000 B.t.u. per hour burners from their rated capacity to as low as 3,000 B.t.u. per hour had little effect on the thermal efficiencies obtained with any one of several sizes of utensils, although of course efficiencies varied from one utensil size to another. This behavior seems important in that it establishes a standard of performance which should be maintained in any future developments.

As would be expected thermal efficiencies were found to decrease as utensil diameters were decreased. It is important to note, however, that with certain types of top section construction, the thermal efficiency decreases at a much more rapid rate as the size of utensil is decreased than with other designs. Furthermore, heat distribution characteristics of burners and top structures yielding extremely low efficiencies with, for example, a  $3\frac{1}{4}$  inch diameter utensil, were not generally satisfactory. When designs in which comparable efficiencies were obtained with  $3\frac{1}{4}$  and  $7\frac{1}{4}$  inch diameter utensils were studied, however, heat distribution characteristics were much more satisfactory. Thus, in making tests to simulate the overall efficiency and effectiveness which might be expected under widely varying utilization conditions, it would seem advisable to employ an extremely small diameter utensil as well as the more commonly used A.G.A. standard test utensil.

Very interesting results were obtained from studies of the comparative efficiencies and speeds of burners designed for and operated at input rates of 6,000, 9,000, and 12,000 B.t.u. per hour respectively. It was found possible to obtain considerably greater speed with 12,000 B.t.u. input burners than with the 9,000 at very little additional, and in some cases with less, input for a given heat output requirement. On the other hand, 6,000 B.t.u. per hour burners while being more efficient than the 9,000 were appreciably slower. For example, with the  $7\frac{1}{4}$  inch diameter utensil, a 6,000

B.t.u. per hour burner required 44 per cent more time than a 9,000 B.t.u. per hour to perform the same operation with a total fuel reduction of only 4 per cent. Real possibilities in future development on burners having input rates higher than 9,000 B.t.u. per hour seem to be indicated by these results.

One of the most important phases of the top burner work involved a study of the effect of the several component parts of the top structure on thermal efficiency. Briefly, this investigation covered such factors as burner design, size, location, and material of aeration bowls or plates, secondary air control, insulating grates from top structures, design and placement of top burner grates, and burner placement. It was found, in general, that the effect of changes in any one of these variables on top burner efficiency was relatively small, assuming of course that in no case was any design considered which did not comply with the existing gas range approval requirements. However, all factors in the aggregate had considerable effect on thermal efficiency.

It is essential, therefore, if optimum efficiency is to be obtained without departing too radically from conventional designs, to examine carefully each component of design from the standpoint of its relationship to fundamentals of heat transfer and combustion as well as its affect on other structural features. For example, if a burner has poor air injecting characteristics, excessive burner heights and venting heights must be provided to permit complete combustion, and efficiency suffers even if burner and venting heights are the minimum consistent with safety. On the other hand, if the burner is capable of high primary air injection, then both burner and venting heights can, in general, be decreased, other factors of design remaining the same, with a resultant increase in efficiency.

A further practical conclusion supported by these data is that reasonably high efficiencies approaching the optimum possible can be obtained with practically all contemporary types of burners such as round flat-flame, round angle flame, and star burners, provided all other pertinent features of top burner design are carefully studied and brought into proper relationship with

the particular type of burner involved.

It seems certain in view of the results obtained on this phase of the project, that in spite of appreciable advances in thermal efficiencies during the past year or so, there is still room for improvement of the average level of performance. When the average level reaches this demonstrated maximum, which may be obtained without radical departure from conventional design, then our industry will be offering to the public gas ranges possessing top burner thermal efficiencies nearly 50 per cent higher than those prevailing 5 years ago. Today the average level of thermal efficiency is approximately 30 per cent higher than that of 5 years ago.

A complete summary of the data published to date will be found in the Association bulletin "Domestic Gas Range Research." This excellent technical presentation will bear the closest study by gas utility men and manufacturers alike.

### Mattocks Leaves A.G.A.

**E**LMER O. MATTOCKS has resigned from the staff of the A. G. A. Testing Laboratories to join the Phillips Petroleum Company as industrial engineer on March 15.

As industrial engineer at the A. G. A. Testing Laboratories since the summer of 1931, Mr. Mattocks has worked on all industrial research problems instituted there by the Committee on Industrial Gas Research. During the past six years Mr. Mattocks' work has greatly contributed to findings reported in seven bulletins on industrial research published by the Laboratories. He is also credited with much of the development of advanced testing apparatus made necessary by these special investigations.

### To Attend International Gas Congress

**C**LIFFORD E. PAIGE, president of The Brooklyn Union Gas Company, has signified his intention to attend the third Congress of the International Union of the Gas Industry which will be held in Paris on June 12 to 16, 1937.

Mr. Paige, who is a vice-president and member of the council of the International Gas Union, addressed by the first International Congress in London in 1931 and also was one of the representatives of the American gas industry at the second International Congress in Zurich, Switzerland, in 1934. At that time he presented a paper discussing conditions in the gas industry in America entitled, "Coordinated Research and Coordinated Rate Making" which received wide attention.

# Personnel Service

## SERVICES OFFERED

### Accounting, Auditing, Bookkeeping, Clerical and Office Workers

**Manager-accountant.** Sixteen years' experience as chief accountant of large gas and electric corporation. Three years as general manager, both gas and electric. Established record for public relations. Thoroughly qualified to handle all types of plant and distribution construction.—Gas. Full detail experience, references on request. 1117.

### Advertising, Publicity and Public Relations

**Advertising and sales promotion.** 8 years' experience with outstanding firm of merchandise counsellors well known for work in gas appliance field. Creative writer; consumer advertising, direct mail, publicity, radio scripts. Market surveys and sales analysis. Experienced in promotion of all domestic commercial gas, electric appliances. 1122.

### Chemists, Physicists and Research Workers (Classification records available)

### Engineers

**Gas engineer (B.E.E.)** four years of varied experience in production department of an electric utility and four years' erection, maintenance and operation experience in production department of large water gas plant. Cadet engineer and plant foreman. Desires new connection. Married (28). 1113.

**Valuation and rate engineer.** College graduate, twelve years' experience on gas transmission and distribution properties; three and one half years valuation engineer for major gas transmission and distribution company. Have qualified as expert before commissions, state and federal courts in three states. Can take executive charge of large appraisals. 1118.

**Gas engineer.** 15 years' experience in all branches of the gas industry, manufactured and natural. Expert designer and operator of equipment and distribution systems. Good appraiser and estimator, map worker and surveyor. Trained for office and shop. 1121.

### Managers and Superintendents

**Experienced gas engineer operator and manager.** Actual experience coal gas, water gas, transmission and distribution construction, operation and maintenance, chemical laboratory, selling, servicing, and installation of gas appliances, office routine billing, consumer's ledger, collecting, daily and monthly operating and financial reports, and budgets. Invites interview. 1096.

**Manager—**With twelve years' experience in the supervision of all branches of the gas business, including commercial and merchandising, coal and water gas manufacture and distribution and new main and service extensions. Also natural gas production and operation. Present connections such, services available short notice. 1103.

### Salesmen and Sales Engineers

**Fourteen years' experience in gas and coke oven work.** Thoroughly trained in operation, maintenance and repairs of coke ovens, producers and water gas plants. Considerable experimental work in this field, including coke sales. Desire suitable position with utility and opportunity for advancement. College graduate; married. 1097.

**Twenty years' experience as executive in small utilities covering management, finance, construction and sales work.** Recently represented a national manufacturer of gas equipment as division sales manager. Prefer executive or sales work. Will go anywhere on short notice. 1109.

## SERVICES OFFERED

### Salesmen and Sales Engineers

(continued)

**Fifteen years' experience sales engineering,** supervision and management natural and manufactured industrial gas utilization field. Present employer large utility holding company primarily electric where opportunity advance limited in gas work. Available on short notice. Reliable, sober, industrious, excellent education, experienced, ambitious. Can demonstrate results on sales. 1112.

**Industrial gas engineer (M. E. 1930).** Experience in manufactured and natural gas territories in industrial, hotel and restaurant, house heating fields; references. 1115.

**Supervisor or sales engineer.** Have had several years' experience in industrial, commercial, house heating and domestic sales. Am familiar with design, layout and installation of equipment. Graduate engineer and married. Desire to be associated with a utility or appliance company. 1116.

**Sales and utilization engineer.** Long experience in restaurant equipment, house heating and industrial applications. Can make complete engineering and sales survey and report. Wants to hear from manufacturer who wants representation in the East. 1119.

**Salesman or selling agent, representing manufacturer of gas appliances, water heaters, ranges, gas fired boilers, and the full lines.** Have established trade for past 15 years in metropolitan area, New York and 200 mile radius with wholesalers, retailers, and gas companies. Volume of sales and highest references on file for inspection. 1120.

**Manufacturer's salesman—competent, aggressive, experienced in national distribution.** Familiar with volume selling to utilities. Gas appliances, plumbing or heating supplies or specialties. 12 years as salesman, sales promotion man and sales manager, with leading manufacturers. 1123.

## SERVICES OFFERED

### Miscellaneous

With gas company anywhere; capable of gas main construction or maintenance, any class pipe, or the installation of modern gas appliances. Understand thermostats and gas refrigeration, water heaters, etc. I have years of experience behind me and can deliver the goods. Footloose and free. 1108.

**As working foreman or general utility man** in plant of 200,000 to 500,000 Cu.ft. daily send out. Fifteen years' experience at making gas, welding, laying mains, installing and servicing gas appliances. Assisted in complete rebuilding of one plant. 1114.

## POSITIONS OPEN

**Industrial combustion engineer** to lay out and conduct research work on industrial gas applications. Location—Ohio. Must be technical graduate with several years' experience in industrial department of gas company. Age preferably 30 to 35. Good opportunity for advancement. State age, experience in detail and salary expected. 0318.

**Small Eastern gas company** is desirous of securing capable service man who is speedy, reliable and trustworthy, capable of doing his work well without subsequent checking up, and who also has sales ability. \$15.00 to \$18.00 a week to start, with 5% to 10% commission on sales, depending on his ability in consummating sales of a reliable nature that would stay sold without reverts. Must be an American, preferably married, with stick-to-it-iveness. 0319.

**Sales and service engineer** to handle on commission basis line of industrial furnaces in mid-west territory. 0320.

**Cadet engineer—natural gas utility in Oklahoma, geology, transmission, and leakage survey work.** State education and salary required. 0321.

## SALES ENGINEERING

The editorial entitled "The Trend Toward Engineering" in the February number of HEATING AND VENTILATING quotes a letter written by Frank L. Myers of Owens-Illinois Glass Company. There is so much inspiration and sound advice for the established engineer, as well as the newly accredited student, that Personnel Service secured permission to print the following abstracts:

"We are watching with interest a trend which ultimately will be the dominating factor in the success of America's next great industry. This trend is toward engineering—engineering within the industry itself and engineering which might be called supplementary thereto.

"Within the industry, the engineer will come into his own, millions of dollars will be spent in research and development—in conceiving new ideas and exploding time-worn theories and traditions.

"Just as the automotive industry forced supplementary engineering development in roads and highways, refining, rubber, metals and textiles—so is the heating and air conditioning industry forcing an intensive scientific study and development of building materials, structures, insulation, refrigeration, fuels, metals, etc.

"In addition to technical engineering, modern heating and air conditioning is forcing SALES ENGINEERING. A plan of distribution and merchandising—quite foreign to old practices in an industry that has been divided against itself—is being shaped along lines well established and proven in other fields. Selling will be on a new plane, geared to modern techniques. The present diversification of retail outlets for heating and air conditioning will be melded without class distinction and we will have an industry prepared by sound technical, manufacturing, selling and installing engineering to meet the demands of a comfort-loving public."

The principal place where we differ with the view expressed by Mr. Myers is that the future tense is used to such an extent. To our mind not only is the trend plainly toward engineering but to a considerable extent engineering has already moved in—to nothing like the extent which it may be expected to do so in the future—but we are on the way even now.

More evidence comes from the steady parade of new products—materials, parts, and complete machines—which are reaching the market with the engineer influence apparent in every detail. Leaders are publicly stating that they are limited even now by their ability to secure competent engineering help. The technical schools and colleges are reporting that engineering students are clamoring for organized classes in heating, refrigeration, air conditioning; the research laboratories are pouring out both scientific findings and new products. All this seems to us like good evidence that all of the trend toward engineering is not in the future. Substantial amounts of engineering are with us right now.

We doubt seriously if the prophet who can correctly forecast either the extent or the major paths of this future has yet arisen among us. We need more of this prophetic thinking for its inspirational value and for its exploratory nature.

## Advisory Council

H. C. ABELL.....	New Orleans, La.	F. A. LYDECKER.....	Newark, N. J.
JAY BARNES.....	New Orleans, La.	F. A. MILLER.....	Bradford, Pa.
C. E. BENNETT.....	Pittsburgh, Pa.	WM. MOELLER, JR.....	Los Angeles, Calif.
HOWARD BRUCE.....	Baltimore, Md.	E. B. NUTT.....	New York, N. Y.
FRANK L. CHASE.....	Dallas, Texas	CLIFFORD E. PAIGE.....	Brooklyn, N. Y.
A. S. CORSON.....	Philadelphia, Pa.	J. A. PERRY.....	Swarthmore, Pa.
ADDISON B. DAY.....	Los Angeles, Calif.	J. F. QUINN.....	Brooklyn, N. Y.
B. J. DENMAN.....	Chicago, Ill.	GEO. W. RATCLIFFE.....	Pittsburgh, Pa.
O. H. FOGG.....	New York, N. Y.	THOS. E. ROACH.....	Tacoma, Wash.
F. C. FREEMAN.....	Providence, R. I.	J. M. ROBERTS.....	Chicago, Ill.
C. W. GALE.....	Knoxville, Tenn.	W. FRANK ROBERTS.....	Baltimore, Md.
R. W. GALLAGHER.....	New York, N. Y.	F. M. ROSENKRANS.....	Kansas City, Mo.
F. L. GRIFFITH.....	Chicago, Ill.	D. B. STOKES.....	Burlington, N. J.
O. S. HAGERMAN.....	Chicago, Ill.	J. B. TONKIN.....	Pittsburgh, Pa.
C. A. HARRISON.....	Toledo, Ohio	F. S. WADE.....	Los Angeles, Calif.
SAMUEL INSULL, JR.....	Chicago, Ill.	T. R. WEYMOUTH.....	Pittsburgh, Pa.
F. B. JONES.....	Pittsburgh, Pa.	E. L. WILDER.....	New York, N. Y.
F. A. LEMKE.....	Kalamazoo, Mich.		

## AFFILIATED ASSOCIATIONS

<b>Association of Gas Appliance and Equipment Manufacturers</b> Pres.—William T. Rasch, American Gas Products Corp., New York, N. Y. Exec. Sec.—C. W. Berghorn, 60 East 42nd St., New York, N. Y.	<b>Maryland Utilities Association</b> Pres.—F. A. Alexander, Conowingo Power Co., Elkton, Md. Sec.—E. J. Hand, Conowingo Power Co., Elkton, Md.	<b>Oklahoma Utilities Association</b> Pres.—J. P. Arnold, Public Service Co. of Oklahoma, Tulsa, Okla. Acting Sec.—Kate A. Niblack, 625 Biltmore Hotel, Oklahoma City, Okla.
<b>Canadian Gas Association</b> Pres.—W. H. Munro, Ottawa Gas Co., Ottawa, Ont., Canada. Sec.-Tr.—G. W. Allen, 183 Glen-garry Avenue, Toronto.	<b>Mid-West Gas Association</b> Pres.—H. M. Smith, Iowa Public Service Co., Waterloo, Ia. Sec.-Tr.—Roy B. Searing, Sioux City Gas & Electric Co., Sioux City, Iowa.	<b>Pacific Coast Gas Association</b> Pres.—James F. Pollard, Seattle Gas Co., Seattle, Wash. Mang. Dir.—Clifford Johnstone, 447 Sutter St., San Francisco, Calif.
<b>Empire State Gas and Electric Association</b> Pres.—E. R. Acker, Central Hud-son Gas & Electric Co., Pough-keepsie, N. Y. Chairman, Gas Section—R. R. Bogie, Kings County Lighting Co., Brooklyn, N. Y. Acting Sec.—George H. Smith, Grand Central Terminal, New York, N. Y.	<b>Missouri Association of Public Utilities</b> Pres.—C. E. Michel, Union Elec-tric Light & Power Co., St. Louis, Mo. Sec.-Tr.—N. R. Beagle, Missouri Power & Light Co., Jefferson City, Mo. Asst. Sec.—Jesse Blythe, 103 West High St., Jefferson City, Mo.	<b>Pennsylvania Gas Association</b> Pres.—H. N. Squier, Scranton-Spring Brook Water Service Co., Scranton, Pa. Sec.—Frank W. Lesley, Pennsyl-vania Gas & Electric Co., York, Pa.
<b>Illinois Public Utilities Association</b> Pres.—E. F. Kelly, Central Illinois Public Service Co., Springfield, Ill. Sec.—Jack Abbey, 1314 Illinois Build-ing, Springfield, Ill.	<b>New England Gas Association</b> Pres.—F. L. Fletcher, Providence Gas Co., Providence, R. I. Exec. Sec.—Clark Belden, 41 Mi-vern St., Boston, Mass.	<b>Pennsylvania Natural Gas Men's Association</b> Pres.—H. D. Freeland, Waynes-burg, Pa. Sec.-Tr.—B. H. Smyers, Jr., 435 Sixth Ave., Pittsburgh, Pa.
<b>Indiana Gas Association</b> Pres.—L. C. Heavenr, Northern In-diana Public Service Co., Fort Wayne, Ind. Sec.-Tr.—P. A. McLeod, New Cas-tle, Ind.	<b>New Jersey Gas Association</b> Pres.—William S. Potter, Elizabeth-town Consolidated Gas Co., Eliz-abeth, N. J. Sec.-Tr.—G. B. Webber, Public Service Electric and Gas Co., Newark, N. J.	<b>Southern Gas Association</b> Pres.—H. E. Meade, New Orleans Public Service Inc., New Or-leans, La. Sec.-Tr.—S. L. Drumm, New Or-leans Public Service Inc., New Orleans, La.
<b>Michigan Gas Association</b> Pres.—Newell E. Loomis, Detroit City Gas Co., Detroit, Mich. Sec.-Tr.—A. G. Schroeder, Grand Rapids Gas Light Co., Grand Rapids, Mich.	<b>Ohio Gas and Oil Men's Association</b> Pres.—Warren E. Burns, Marietta, Ohio. Sec.-Tr.—Frank B. Maullar, 811 First National Bank Bldg., Co-lumbus, Ohio.	<b>Wisconsin Utilities Association</b> Pres.—Frank A. Coffin, The Milwau-kee Electric Railway & Light Co., Milwaukee, Wis. Exec. Sec.—A. F. Herwig, 135 West Wells St., Milwaukee, Wis.



# AMERICAN GAS ASSOCIATION

HEADQUARTERS, 490 LEXINGTON AVE., NEW YORK, N. Y.

## OFFICERS AND DIRECTORS

President .....	HERMAN RUSSELL .....	Rochester, N. Y.
Vice-President .....	N. C. MCGOWEN .....	Shreveport, La.
Vice-President .....	CONRAD N. LAUER .....	Philadelphia, Pa.
Treasurer .....	J. F. ROONEY .....	New York, N. Y.
Managing Director .....	ALEXANDER FORWARD .....	New York, N. Y.
Assistant Manager .....	H. W. HARTMAN .....	New York, N. Y.
Secretary .....	KURWIN R. BOYES .....	New York, N. Y.
Director, Publicity-Adv. ....	C. W. PERSON .....	New York, N. Y.
Departmental Vice-Pres. ....	GEORGE WELKER .....	Oil City, Pa.
Sectional Vice-Pres. ....	H. E. CLIFF .....	Newark, N. J.
Sectional Vice-Pres. ....	F. M. BANKS .....	Los Angeles, Calif.
Sectional Vice-Pres. ....	RALPH L. MANIER .....	Syracuse, N. Y.
Sectional Vice-Pres. ....	JOHN A. FRY .....	Detroit, Mich.
Sectional Vice-Pres. ....	MARTIN I. MIX .....	Chicago, Ill.
Chairman, Pub. & Adv. Com. ....	HENRY OBERMEYER .....	New York, N. Y.

WALTER C. BECKJORD .....	Pittsburgh, Pa.	B. J. MULLANEY .....	Chicago, Ill.
C. W. BENNETT .....	Detroit, Mich.	F. A. NEWTON .....	New York, N. Y.
C. M. COHN .....	Baltimore, Md.	JAMES F. POLLARD .....	Seattle, Wash.
H. C. COOPER .....	Pittsburgh, Pa.	W. T. RASCH .....	New York, N. Y.
J. S. DEHART .....	Newark, N. J.	N. T. SELLMAN .....	New York, N. Y.
L. B. DENNING .....	Dallas, Texas	MARCY L. SPERRY .....	Washington, D. C.
H. L. DOHERTY .....	New York, N. Y.	W. E. STEINWEDELL .....	Cleveland, Ohio
GEORGE S. HAWLEY .....	Bridgeport, Conn.	T. J. STRICKLER .....	Kansas City, Mo.
C. W. HUNTER .....	Philadelphia, Pa.	JOHN K. SWANSON .....	Minneapolis, Minn.
P. S. YOUNG .....	Newark, N. J.		

## SECTION AND DEPARTMENT OFFICERS

NATURAL GAS—Chairman .....	GEORGE E. WELKER .....	Oil City, Pa.
Vice-Chairman .....	ROBERT W. HENDEE .....	Colorado Spgs., Colo.
Secretary .....	A. E. HIGGINS .....	Dallas, Texas
ACCOUNTING—Chairman .....	HERBERT E. CLIFF .....	Newark, N. J.
Vice-Chairman .....	E. J. TUCKER .....	Toronto, Ont., Can.
Secretary .....	H. W. HARTMAN .....	New York, N. Y.
COMMERCIAL—Chairman .....	F. M. BANKS .....	Los Angeles, Calif.
Vice-Chairman .....	HUGH CUTHRELL .....	Brooklyn, N. Y.
Secretary .....	J. W. WEST, JR. ....	New York, N. Y.
INDUSTRIAL GAS—Chairman .....	RALPH L. MANIER .....	Syracuse, N. Y.
Vice-Chairman .....	HALE A. CLARK .....	Detroit, Mich.
Secretary .....	EUGENE D. MILENER .....	New York, N. Y.
MANUFACTURERS—Chairman .....	JOHN A. FRY .....	Detroit, Mich.
Vice-Chairman .....	MERRILL N. DAVIS .....	Bradford, Pa.
Vice-Chairman .....	J. SCOTT FOWLER .....	Philadelphia, Pa.
TECHNICAL—Chairman .....	M. I. MIX .....	Chicago, Ill.
Vice-Chairman .....	J. V. POSTLES .....	Philadelphia, Pa.
Secretary .....	H. W. HARTMAN .....	New York, N. Y.
PUBLICITY & ADVERTISING COMMITTEE—Chairman .....	HENRY OBERMEYER .....	New York, N. Y.
A. G. A. TESTING LABORATORIES— Chairman, Managing Committee .....	J. S. DEHART, JR. ....	Newark, N. J.
Secretary, Managing Committee .....	N. T. SELLMAN .....	New York, N. Y.
Director .....	R. M. CONNER .....	Cleveland, Ohio

